



REPORT

ON THE HEALTH OF THE

CITY OF LIVERPOOL

FOR THE YEAR

1949

BY

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PUBLIC HEALTH DEPARTMENT,
LIVERPOOL.

MY LORD MAYOR, LADIES AND GENTLEMEN,

I have the honour to submit to you my nineteenth Annual Report relating to the health of the City of Liverpool. I wish to acknowledge the assistance given by other departments in providing certain information which has been included in the Report.

In April, a boy who had recently arrived from India was found to be suffering from Smallpox, and again in October another two cases occurred in the City. Prompt action was taken on both occasions and there was no spread of the infection (page 13). During the summer months an outbreak of paratyphoid fever occurred which was traced to a bakery where the source of infection was a carrier on the staff (page 14). During the year, 100 cases of typhoid and paratyphoid fevers occurred with three deaths. There were 129 cases of diphtheria with four deaths. This is the lowest number of cases and fewest deaths from diphtheria ever recorded in Liverpool. It is largely due to the mass immunisation scheme against the disease operated by the department, which succeeded in immunising 41·1 per cent. of pre-school children and 76·1 per cent. of school children. Of the four persons who died not one had been immunised.

The welfare services and mental health services continued to develop. In the former, further accommodation for aged persons was opened at Moreno House (30 women) and at New Grafton House (36 men and 34 women).

The total number of births was 16,551, giving a birth rate of 20·7 per 1,000 as against 22·3 for the previous year. The total number of deaths from all causes was 9,334, giving a general death rate of 11·6 as compared with 11·4 in 1948.

The infantile mortality rate was 44 per 1,000 live births as compared with 54 in 1948 and 69 in 1947. This is the lowest ever recorded for the City and shows a considerable improvement on the figure of 71 in 1939.

There can be no doubt that education in mothercraft by the Maternity and Child Welfare services have played a large part in this saving of infant lives.

The birth rate of 20·7 per 1,000 of the population was still higher than that of England and Wales which was 16·7. The registered live births numbered 16,551 compared with 17,695 in the previous year. Of this number 943, or 5·7 per cent., were illegitimate, a similar percentage to 1948. There were 358 stillbirths, giving a rate of 21·2 per 1,000 total births.

In the environmental field, housing and food hygiene still remain the two outstanding problems. Little has been done in the way of slum clearance owing to the general housing shortage. With food hygiene, energetic measures have been taken to improve the standards of cleanliness in shops and food factories. Hand-washing facilities for staffs are often inadequate together with other easily rectified food handling faults. There were 323 cases of food poisoning during the year.

I again wish to express my thanks to the Chairman and members of the Health Committee for the courtesy and kindness with which they have considered the various suggestions and recommendations made to them, and finally I wish to acknowledge with thanks the assistance given by officers of the Health and other Departments in our common endeavour to be of service to the City.

I am,

Your obedient Servant,

W. M. FRAZER,

Medical Officer of Health.

CITY OF LIVERPOOL.

SUMMARY

OF

VITAL STATISTICS FOR 1949.

Area (land and inland water)	...	...	...	...	27,321 Acres (43 sq. miles)
Population (Estimated by Registrar General)	...	...	...	...	800,800
Live Births	...	...	16,551	Live Birth rate	20·7 per 1,000 of estimated population.
Deaths (all causes)	...	...	9,334	Death rate	11·6 per 1,000 of estimated population.
Deaths (under 1 year of age)	730	Infant Mortality rate	44 per 1,000 live births		
Deaths from :—					
Seven principal Zymotic diseases	} 171	Zymotic death rate	} 0·21	} per 1,000 of the estimated population.	
Pulmonary Tuberculosis	} 542	Pulmonary Tuberculosis death rate	} 0·68		
Other forms of Tuberculosis	} 68	Non Pulmonary Tuberculosis death rate	} 0·08		
Respiratory diseases	1,488	Respiratory death rate	} 1·86		
Cancer	... 1,382	Cancer death rate	} 1·72		
Maternal Deaths	...	9	Maternal Mortality rate	0·53 per 1,000 births	

BIRTHS.

The number of live births recorded during the year 1949 was 16,551, equal to a rate of 20·7 per 1,000 of the estimated resident mid-year population. Of the total births, 8,576 were males and 7,975 were females. The number of illegitimate live births was 943 or 5·7 per cent. of the total births, 492 being males and 451 females.

The birth rate in the City of Liverpool was considerably above the average of the great towns, which was 18·7 per 1,000 of the population, as well as of England and Wales taken as a whole, where the rate was 16·7 per 1,000.

The number of still-births registered was 358 as shown in the table below. This represented 21·2 per thousand of the total (live and still) births registered and 0·45 per 1,000 of the estimated population.

	LIVE BIRTHS.			STILL BIRTHS.		
	Males.	Females.	Total.	Males.	Females.	Total
Legitimate ...	8,084	7,524	15,608	170	166	336
Illegitimate ...	492	451	943	12	10	22
	8,576	7,975	16,551	182	176	358

The following figures show not only an increase in the actual number of illegitimate births, but an increase in the proportion of illegitimate births when compared with 1938.

	Births.	Birth Rate.	Illegitimate Birth Rate per 1,000 population.	% of Total Births.	Total Illegitimate Births.
1938	16,175	18·7	0·89	4·8	771
1942	13,729	20·5	1·30	6·3	871
1943	14,432	21·8	1·55	7·1	1,030
1944	15,412	23·1	1·91	8·3	1,274
1945	14,784	21·7	2·32	10·7	1,582
1946	18,528	25·2	1·84	7·3	1,351
1947	19,904	26·4	1·53	5·8	1,151
1948	17,695	22·3	1·27	5·7	1,009
1949	16,551	20·7	1·18	5·7	943

STILL-BIRTHS.

The following figures show the reduction in the numbers of still-births which have taken place in the City during the past fourteen years and the corresponding rates per thousand of population and per thousand births. The latter rate is the more valuable as it expresses the proportion of total births lost, the actual number of live births occurring varying

from 17,347 in 1935 down to 13,291 in 1941 and up to 16,551 in 1949. It will be noted that there has been a marked and almost continuous fall in the still-birth rate throughout this period, thus constituting a considerable saving of life additional to that which has resulted from the infant mortality rate. The fall is 49 per cent. of the 1935 figure and the rate is now below 30 per thousand births, and it is probable that a further considerable reduction is still possible.

The causes of this reduction, which has also affected the country generally though not in the same degree, are somewhat obscure. The greater care of expectant mothers in the ante-natal clinics and the better obstetric services have undoubtedly contributed to this reduction, but there is some evidence to show that the better nutrition of expectant mothers of the labouring classes, together with diminished unemployment, have also largely contributed.

The still-birth rate among legitimate babies was 21 per thousand and among illegitimate babies was 23 per thousand births.

Year.	-Registered Live Births.	Registered Still Births.	Total Births.	Still-births Rate per 1,000 population.	Still-births per 1,000 Live and Still Births.
1935.....	17,347	749	18,096	0·9	41·4
1936.....	17,403	708	18,111	0·8	39·1
1937.....	16,728	618	17,346	0·7	35·6
1938.....	16,175	639	16,814	0·7	38·0
1939.....	15,614	631	16,245	0·8	38·9
1940.....	15,016	519	15,535	0·7	33·4
1941.....	13,291	508	13,799	0·7	36·8
1942.....	13,729	552	14,281	0·8	38·6
1943.....	14,432	485	14,917	0·7	32·5
1944.....	15,412	492	15,904	0·7	30·9
1945.....	14,784	431	15,215	0·6	28·3
1946.....	18,528	539	19,067	0·7	28·3
1947.....	19,904	514	20,418	0·7	25·2
1948.....	17,695	479	18,174	0·6	26·3
1949.....	16,551	358	16,909	0·4	21·2

DEATHS.

The total deaths registered during the year numbered 9,334 (4,880 males and 4,454 females), equal to a death rate of 11·7 per 1,000 of the estimated resident population. Since 1939 the deaths of non-civilians are excluded.

The death rate for England and Wales was 11·7 and that of the great towns was 12·5. The following table shows deaths at various age periods, expressed as a percentage of total deaths, for each year 1915 to 1949:—

Year	Under 5 years.	AT AGES—YEARS.									
		5—	10—	20—	30—	40—	50—	60—	70—	80—	
1915 ...	% 33	% 2	% 4	% 4	% 7	% 9	% 12	% 13	% 12	% 4	100
1916 ...	30	3	4	5	6	9	12	14	13	4	100
1917 ...	29	3	4	5	7	9	12	14	13	4	100
1918 ...	29	5	6	8	8	9	11	12	9	3	100
1919 ...	25	4	5	7	8	9	12	13	13	4	100
1915-1919 (average)	29	3	5	6	7	9	12	13	12	4	100
1920 ...	33	2	4	5	7	9	11	13	12	4	100
1921 ...	33	2	4	5	6	9	11	13	12	5	100
1922 ...	28	2	4	5	6	9	12	15	14	5	100
1923 ...	30	2	4	5	6	9	12	14	13	5	100
1924 ...	29	2	4	4	6	8	12	15	15	5	100
1920-1924 (average)	30	2	4	5	6	9	12	14	13	5	100
1925 ...	28	2	4	4	5	9	12	15	15	6	100
1926 ...	28	2	3	5	6	9	12	15	14	6	100
1927 ...	25	2	3	5	5	9	12	16	16	7	100
1928 ...	25	2	4	5	5	9	12	16	16	6	100
1929 ...	23	3	3	5	5	9	12	16	17	7	100
1925-1929 (average)	26	2	3	5	5	9	12	16	16	6	100
1930 ...	20	3	4	5	5	9	14	17	16	7	100
1931 ...	23	2	3	5	5	8	12	17	18	7	100
1932 ...	22	2	3	5	5	8	13	17	17	8	100
1933 ...	21	2	3	5	5	8	13	17	18	8	100
1934 ...	20	2	3	5	6	8	12	18	18	8	100
1930-1934 (average)	21	2	3	5	5	8	13	17	18	8	100
1935 ...	17	2	3	5	5	8	13	19	20	8	100
1936 ...	16	2	3	5	5	7	14	19	21	8	100
1937 ...	17	2	2	5	5	7	13	19	21	9	100
1938 ...	16	1	3	4	5	7	13	20	22	9	100
1939 ...	13	1	3	4	4	7	14	21	23	10	100
1935-1939 (average)	16	2	3	5	5	7	13	19	21	9	100
1940 ...	14	2	3	4	5	8	14	21	20	9	100
1941 ...	15	2	4	5	6	8	13	20	19	8	100
1942 ...	14	1	2	4	5	7	14	22	22	9	100
1943 ...	14	1	2	3	5	7	13	22	23	10	100
1944 ...	12	1	2	4	4	7	13	23	24	10	100
1940-1944 (average)	14	1	3	4	5	7	13	22	22	9	100
1945 ...	13	1	2	3	4	7	13	22	23	12	100
1946 ...	16	1	2	3	3	6	12	21	24	12	100
1947 ...	15	1	2	3	4	6	11	20	25	13	100
1948 ...	12	1	1	3	4	7	12	21	26	13	100
1949 ...	9	1	1	3	4	6	12	22	28	14	100

Deaths from certain Groups of Diseases in each decade from 1871 to 1940, and during the years 1941 to 1949.

Years.	(a) Infective diseases (less Diarrhoea and Influenza).	(b) Tubercular diseases.	(c) Respiratory diseases (including Influenza).	(d) Digestive diseases (including Diarrhoea).	Total Deaths from (a), (b), (c) & (d)	(e) Cancer.	Total Deaths from all causes.
1871-1880	27,205	19,869	29,763	14,747	91,584	2,015	147,005
1881-1890	19,748	17,870	32,507	13,186	86,311	2,820	146,195
1891-1900	13,515	16,714	35,819	18,491	84,539	4,223	145,522
1901-1910	13,967	16,054	32,995	18,163	81,179	6,480	150,962
1911-1920	10,417	14,946	36,480	12,282	74,125	7,603	137,223
1921-1930	7,831	12,664	29,447	8,184	58,126	9,852	117,756
1931-1940	6,473	9,413	18,196	5,987	40,069	12,619	115,632
1941	623	846	2,226	447	4,142	1,211	13,253
1942	495	777	1,403	383	3,058	1,279	9,388
1943	238	773	1,856	399	3,266	1,337	9,719
1944	226	679	1,344	362	2,611	1,215	9,010
1945	200	701	1,620	435	2,956	1,230	9,523
1946	206	657	1,462	569	2,894	1,312	9,671
1947	222	684	1,677	599	3,217	1,314	10,122
1948	151	715	1,198	463	2,527	1,429	9,027
1949	186	610	1,590	361	2,747	1,382	9,334

Deaths expressed as a percentage of total deaths from all causes (Proportionate Mortality).

Years.	(a)	(b)	(c)	(d)	Total Deaths from all causes	(e)	Total Deaths from all causes
1871-1880	19.2	13.5	20.2	10.0	62.9	1.4	100.0
1881-1890	14.1	12.7	23.2	9.4	59.4	2.0	100.0
1891-1900	9.3	10.8	24.6	12.7	57.4	2.9	100.0
1901-1910	8.6	10.6	21.8	12.0	53.0	4.3	100.0
1911-1920	7.9	10.9	27.3	8.9	55.0	5.5	100.0
1921-1930	6.6	10.7	25.0	6.9	49.4	8.4	100.0
1931-1940	5.6	8.1	15.7	5.2	34.7	10.9	100.0
1941	4.7	6.4	16.8	3.4	31.3	9.1	100.0
1942	5.3	8.3	14.9	4.1	32.6	13.6	100.0
1943	2.4	8.0	19.1	4.1	33.6	13.7	100.0
1944	2.5	7.5	14.9	4.0	28.9	13.5	100.0
1945	2.1	7.4	17.0	4.6	31.1	12.9	100.0
1946	2.1	6.8	15.1	5.9	29.9	13.6	100.0
1947	2.2	6.8	16.6	5.9	31.8	13.0	100.0
1948	1.7	7.9	13.3	5.1	28.0	15.8	100.0
1949	2.0	6.5	17.0	3.9	29.4	14.8	100.0

ANALYSIS OF CAUSES OF MORTALITY.

Death Rates per 1,000 Population.

Years.	(a) Infective diseases (less Diarrhoea and Influenza).	(b) Tubercular diseases.	(c) Respiratory diseases (including Influenza).	(d) Digestive diseases (including Diarrhoea).	Total Deaths from (a), (b), (c) & (d)	(e) Cancer.	Total Deaths from all causes.
1871-1880	5.2	3.6	5.7	2.8	17.3	0.4	28.5
1881-1890	3.6	3.2	5.9	2.4	15.1	0.5	26.1
1891-1900	2.2	2.7	5.9	3.0	13.8	0.7	23.9
1901-1910	1.9	2.2	4.5	2.5	11.1	0.9	20.0
1911-1920	1.3	1.9	4.7	1.6	9.5	1.0	18.1
1921-1930	0.9	1.4	3.3	0.9	6.5	1.1	13.6
1931-1940	0.7	1.1	2.1	0.7	4.7	1.5	13.7
1941	0.9	1.2	3.2	0.6	5.9	1.8	19.3
1942	0.7	1.1	2.1	0.6	4.5	1.9	14.0
1943	0.3	1.2	2.8	0.6	4.9	2.0	14.7
1944	0.3	1.0	2.0	0.5	3.9	1.8	13.5
1945	0.3	1.0	2.4	0.6	4.3	1.8	14.0
1946	0.3	0.9	2.0	0.8	3.9	1.8	13.2
1947	0.3	0.9	2.2	0.8	4.2	1.7	13.5
1948	0.2	0.9	1.5	0.6	3.2	1.8	11.4
1949	0.2	0.8	2.0	0.4	3.4	1.7	11.6

Death-Rates expressed as a percentage of the rates experienced in 1871-1880 (Index Numbers).

1871-1880	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1881-1890	69.0	88.0	104.0	85.7	89.1	125.0	91.0
1891-1900	42.0	75.0	104.0	107.2	79.3	175.0	84.0
1901-1910	36.0	61.0	79.0	89.3	64.3	225.0	70.0
1911-1920	26.0	50.0	83.0	56.7	56.0	250.0	67.0
1921-1930	17.1	40.0	58.8	36.8	38.5	280.0	47.7
1931-1940	13.5	30.6	36.8	25.0	27.2	375.0	48.1
1941	17.3	33.3	56.1	21.4	34.1	450.0	67.7
1942	13.5	30.6	36.8	21.4	26.0	475.0	49.1
1943	5.8	33.3	49.4	21.4	28.3	500.0	51.6
1944	5.8	28.0	35.1	17.9	22.5	450.0	47.4
1945	5.8	28.0	42.1	21.4	24.8	450.0	49.1
1946	5.8	25.0	35.1	28.6	22.5	450.0	46.3
1947	5.8	25.0	38.6	28.6	24.3	425.0	47.4
1948	3.9	25.0	26.3	21.4	18.5	450.0	40.0
1949	3.9	22.2	35.1	14.3	19.6	425.0	40.7

INFANTILE MORTALITY.

The following table shows the deaths and death-rates of infants under one year of age for the year 1949:—

	Infant Deaths.	Infant Death Rates.
All Infants 	730	44 per 1,000 live births.
Legitimate Infants 	667	43 „ legitimate live births.
Illegitimate Infants 	63	67 „ illegitimate live births.

Analysis of causes of Infant Mortality in successive quinquennia 1896-1945, and the years 1946 to 1949.

(A.)—Recorded Deaths.

Years.	1 Total Births.	2 Total Deaths Under 1 Year of Age.	3 General Diseases (excluding Tubercu- losis).	4 Tubercular Diseases.	5 Nervous Diseases	6 Respira- tory Diseases	7 Digestive Diseases (including Diarrhoea.)	8 Malforma- tions, Premature Birth, Maras- mus, &c.	9 External Causes.
1896/1900	111,700	21,160	1,508	698	2,476	3,575	6,376	5,698	819
1901/1905	118,801	20,353	1,546	644	2,516	3,484	5,187	5,732	565
1906/1910	118,313	17,739	1,613	465	2,052	3,146	3,902	5,520	539
1911/1915	111,872	15,458	1,309	345	1,432	2,916	3,635	4,953	426
1916/1920	99,451	11,510	1,116	202	1,083	2,821	1,872	4,107	179
1921/1925	104,217	10,497	1,066	200	573	2,776	1,786	3,764	120
1926/1930	95,701	9,002	978	109	401	2,553	1,670	2,981	81
1931/1935	88,644	7,904	902	82	368	2,050	1,184	3,125	67
1936/1940	80,936	6,226	573	74	519	1,457	698	2,691	84
1941/1945	71,648	5,512	341	71	403	1,704	548	2,193	131
1946	18,528	1,382	77	11	94	272	306	574	27
1947	19,904	1,367	93	19	56	304	315	525	39
1948	17,695	954	48	6	32	214	196	434	17
1949	16,551	730	70	5	20	182	99	334	16

(B.)—Death Rates per 1,000 Births.

1896/1900	*33·4	189	12·7	6·2	22·1	32·0	57·1	51·0	7·3
1901/1905	33·4	172	13·0	5·5	21·2	29·3	43·7	48·1	4·7
1906/1910	32·2	149	13·6	3·9	17·4	26·6	33·0	46·7	4·6
1911/1915	29·3	137	11·6	3·1	12·8	26·1	32·5	43·1	3·8
1916/1920	24·9	116	11·1	2·0	10·9	28·4	18·8	42·0	1·8
1921/1925	25·1	100	10·2	1·9	5·5	26·6	17·1	36·1	1·2
1926/1930	22·1	94	10·2	1·1	4·2	26·7	17·4	31·1	0·8
1931/1935	20·5	89	10·1	0·9	4·2	23·1	13·4	35·3	0·8
1936/1940	19·4	77	7·0	0·9	6·4	17·9	8·8	32·9	1·0
1941/1945	21·3	78	4·8	1·0	5·6	24·1	7·7	30·7	1·8
1946	25·2	74	4·1	0·6	5·1	14·7	16·5	31·9	1·0
1947	26·4	69	4·7	0·9	2·9	15·3	15·8	26·4	2·0
1948	22·3	54	2·7	0·3	1·8	12·1	11·1	24·5	1·0
1949	20·7	44	4·2	0·3	1·2	11·0	6·0	20·2	1·0

*In column 1 the rates indicate the number of births per 1,000 of the population.

(C.)—Death Rates expressed as a percentage of the rates recorded in 1896-1900.

1896/1900	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
1901/1905	100·0	91·0	102·3	89·3	95·9	91·5	76·5	94·0	65·7
1906/1910	93·0	78·6	107·1	62·9	78·6	83·1	57·8	91·0	63·0
1911/1915	87·0	72·5	91·9	50·0	57·9	81·5	56·9	84·0	52·1
1916/1920	76·0	61·4	87·4	32·2	49·3	88·7	32·7	82·0	25·5
1921/1925	75·1	54·9	80·3	30·6	24·9	84·7	29·9	70·8	16·4
1926/1930	66·2	49·7	80·3	17·7	18·9	83·5	30·4	60·9	11·0
1931/1935	61·4	47·2	79·5	14·8	18·9	72·2	23·4	69·2	10·4
1936/1940	58·1	40·7	55·1	14·5	29·0	55·9	15·4	64·5	13·7
1941/1945	63·8	41·3	37·8	16·1	25·3	75·3	13·5	62·0	24·6
1946	75·4	39·1	32·3	9·7	23·1	46·0	28·9	60·8	13·7
1947	79·0	36·5	37·0	14·5	13·1	47·8	27·7	51·8	27·4
1948	66·8	28·6	21·2	4·8	8·1	37·8	19·4	48·0	13·7
1949	62·0	23·3	33·1	4·8	5·4	34·4	10·5	39·6	13·7

CHILD MORTALITY.

TABLE I.

Year.	Deaths under 1 year of age.	DEATHS, 1 YEAR AND UNDER 5 YEARS OF AGE.							
		Total, 1 year and under 5 years of age.	General Diseases (including T.B.).	Respira- tory Diseases.	Digestive Diseases.	Measles.	Whooping Cough.	Diphtheria.	Scarlet Fever.
						Included in General Diseases.			
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(j)
1920	2,826	1,472	697	536	90	285	129	109	35
1921	2,339	1,488	610	474	221	250	135	51	19
1922	2,052	1,255	449	577	77	126	98	53	22
1923	2,058	1,321	577	478	117	247	85	57	28
1924	2,113	1,207	453	498	102	103	98	40	37
1925	1,935	1,456	706	480	144	280	139	68	65
1926	2,066	1,155	451	456	147	149	107	51	12
1927	1,781	1,206	517	481	99	248	75	55	4
1928	1,789	1,038	467	369	101	131	161	55	11
1929	1,822	1,404	677	518	112	326	110	75	23
1930	1,544	756	346	251	65	113	38	78	15
1931	1,740	1,062	535	368	67	253	87	74	4
1932	1,646	890	486	251	59	227	74	85	3
1933	1,655	944	474	287	84	234	53	79	18
1934	1,418	799	438	231	40	174	109	77	4
1935	1,445	561	269	176	35	110	34	66	2
1936	1,311	540	307	148	19	116	65	58	1
1937	1,371	579	289	176	43	92	59	61	6
1938	1,189	508	264	153	28	77	60	64	3
1939	1,098	247	88	82	25	—	14	39	1
1940	1,257	522	234	147	25	88	9	63	2
1941	1,350	658	279	182	25	15	67	88	4
1942	1,039	258	126	50	10	16	9	38	1
1943	1,171	208	80	60	15	8	21	21	—
1944	884	184	79	33	12	6	11	16	—
1945	1,068	185	71	46	16	5	12	13	—
1946	1,382	158	66	29	8	13	6	16	—
1947	1,367	189	78	41	15	8	32	6	—
1948	954	161	67	32	14	8	8	8	—
1949	730	149	53	31	12	5	15	2	—

CANCER.

There were 1,382 deaths recorded from cancer, as compared with 1,429 in 1948, this being equivalent to a death-rate of 1·7 per 1,000 of the population.

DEATHS FROM CANCER AT VARIOUS AGE-PERIODS, 1949.

Organs Affected.	Males.	Females.	Number of Deaths.									All Ages.
			At Ages—Years									
			Under 10	10-	25-	40-	50-	60-	70-	75-	80-	
Buccal Cavity	30	5	—	—	—	1	10	8	4	10	2	35
Stomach ...	187	141	—	—	8	22	62	111	60	41	24	328
Liver ...	14	7	—	—	—	3	2	11	2	1	1	21
Intestines ...	104	150	—	—	4	24	46	73	52	35	20	254
Lungs ...	276	44	—	1	9	36	94	111	40	23	6	320
Female Genital Organs	—	91	—	1	5	17	26	24	6	7	5	91
Breast ...	—	107	—	—	6	11	27	31	13	14	5	107
Skin ...	3	3	—	1	—	—	1	1	1	1	1	6
Other Organs...	149	71	6	9	11	18	33	65	36	25	17	220
	763	619	6	12	43	132	301	435	214	158	81	1,382

INFECTIOUS DISEASE.

The following is a list of the diseases notifiable in Liverpool during 1949:—

Anthrax	Paratyphoid Fever
Acute Poliomyelitis	Plague
Cerebro-spinal Fever	Pneumonia, Acute Influenzal
Cholera	Pneumonia, Acute Primary
Diphtheria	Polio-encephalitis, Acute
Dysentery	Puerperal Pyrexia
Enteric (Typhoid) Fever	(including Puerperal Fever)
Erysipelas	Relapsing Fever
Encephalitis Lethargica, Acute	Scarlet Fever or Scarlatina
Food Poisoning (Food and Drugs Act, 1938)	Smallpox
Malaria	Tuberculosis (all forms)
Measles	Typhus Fever
Membranous Croup	Whooping Cough
Ophthalmia-Neonatorum	

TABLE 1.

NUMBERS OF CASES OF INFECTIOUS DISEASE REPORTED DURING 1949,
AND NUMBERS ADMITTED TO HOSPITAL.

	January	February	March	April	May	June	July	August	September	October	November	December	TOTALS	Cases admitted to hospital	Percentage admitted to hospital
Smallpox ...	—	—	—	1	—	—	—	—	—	1	1	—	3	3	100·0
Plague ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enteric Fever ...	3	2	1	—	—	—	64	13	9	6	1	1	100	100	100·0
Scarlet Fever ...	126	110	93	90	85	106	76	61	83	188	213	210	1441	503	34·9
Measles and German Measles...	258	341	535	532	455	876	908	379	311	278	345	743	5961	465	7·8
Diphtheria ...	18	10	22	16	13	7	10	5	8	7	6	7	129	127	98·4
Puerperal Pyrexia...	23	15	11	19	19	13	13	10	14	13	17	14	181	173	95·5
Erysipelas ...	23	12	16	9	7	15	11	9	10	10	20	22	164	78	47·6
Cerebro-spinal Fever	7	2	3	1	4	3	2	4	3	6	3	1	39	35	89·7
Poliomyelitis and Polio-encephalitis	—	—	—	—	—	4	9	21	18	10	2	2	66	61	92·4
Ophthalmia Neonatorum ...	8	12	14	8	9	8	16	13	12	12	9	7	128	91	71·1
Pneumonia & Influenzal Pneumonia	101	142	146	45	30	38	23	12	15	25	85	146	808	116	14·3
Malaria ...	3	5	3	1	2	3	2	3	2	2	1	1	28	18	64·3
Dysentery ...	22	49	23	24	16	88	34	25	26	86	24	32	449	420	93·6
Encephalitis Lethargica ...	—	1	—	—	—	—	—	—	—	—	—	—	1	1	100·0
Whooping Cough ...	735	669	568	263	158	128	78	48	49	31	32	32	2791	494	17·7
Anthrax ...	1	—	—	—	—	—	—	1	—	—	1	1	4	4	100·0
Chickenpox ...	8	29	12	11	12	15	13	11	13	19	14	21	178	94	52·8
Food Poisoning ...	—	—	—	—	5	6	9	28	257	8	5	5	323	29	9·0
TOTALS ...	1336	1399	1447	1020	815	1310	1268	643	830	702	779	1245	12794	2812	22·0

The numbers of patients admitted to hospital include the cases which occurred while in hospital.

Plague.

No case of plague occurred in the City during the year.

Smallpox.

Three cases of smallpox occurred in the City during the year. The first was a boy aged 14 years who arrived from India in the s.s. "Mooltan." On arrival at Tilbury this ship had a passenger who had died of smallpox. The boy was a contact of this case and developed a mild attack of smallpox which was considerably modified by previous vaccinations. The boy was isolated in the Smallpox Hospital and his contacts kept under observation. No further cases occurred.

A laboratory boy, aged 16 years, who was employed in the Bacteriological Laboratory at Liverpool University, contracted smallpox in the course of his employment. The disease was diagnosed on 29th October and the patient was removed to the Port Hospital, New Ferry, the same day. Subsequently on 11th November, the brother of the above boy, aged 14 years, was also diagnosed as a case of smallpox and was removed forthwith to the same hospital. Prompt action was taken from the outset by the Health Department in regard to contact tracing, vaccination and isolation. No further cases occurred.

Vaccination.

The number of vaccinations taking place in Liverpool during 1949 was as follows:—

Births	...	...	...	...	16,551
No. of primary vaccinations	...				7,592
No. of re-vaccinations	...	...			595
No. insusceptible	...	...	...		138
					<hr/>
					8,325
					<hr/>
No. vaccinated at clinics	...	...			5,097
No. vaccinated by private doctors					3,228
					<hr/>
					8,325
					<hr/>

As this was the first complete year since the repeal of the Vaccination Acts, when vaccination ceased to be compulsory, no comparison can be made with previous years.

Typhus Fever.

No case of typhus fever was reported during the year.

Anthrax.

Four cases of anthrax were treated during 1949 at Fazakerley Hospital, and all recovered.

Typhoid and Paratyphoid Fever.

During the year there occurred 11 cases of typhoid fever and 89 cases of paratyphoid " B " fever, 77 of which occurred in an outbreak described below.

In the epidemic about to be described 107 cases occurred in Liverpool and district due to *S. paratyphi B*. Vi-phage type 2. Clinically the disease was mild; a number of the cases developed marked clinical signs of paratyphoid fever whilst others suffered little more than a transient gastro-intestinal upset. There was only one death which occurred in a seven-month's-old infant.

The Epidemic.

On Wednesday, 6th July, 1949, eleven notifications were received from Fazakerley Infectious Diseases Hospital and three from Alder Hey Children's Hospital of cases of paratyphoid fever, making 14 cases in all, 10 of which were resident in Liverpool. A study of the reports on the home visits during the 7th July revealed that in 8 out of 10 households a certain amount of bread and confectionery was obtained from shops of a large bakery firm. In view of this apparently common factor and as a number of shops were involved it was considered the indications were of a central source of infection in the bakery. As the bakery was not in Liverpool the Medical Officer of Health of the area in which the bakery was situated was informed and asked to start investigations. Among these early cases was the only fatal case, a seven-months'-old infant whose mother supplied the information that she had given the child, as part of his weaning diet, a piece of jam sandwich cake which she had bought from one of the suspected firm's shops.

As cases continued to be notified it became more and more apparent that the source of infection was a central one in the bakery and was being disseminated by some articles being sold in the branch shops in Liverpool and district. A spot map clearly showed aggregations of cases round these particular bakers' shops. Also cases occurred only in local authority areas where this particular firm had shops, suggesting that the public largely buy their bread and confectionery from a local baker.

Table I shows the distribution of cases on Merseyside. The main onslaught of the epidemic fell on Liverpool, and therefore the detailed review of the epidemiology will be confined to the cases which occurred in this City. Referring to Table I, of the 77 cases in the City, 65 were Vi-phage type 2. Of the 4 cases of Vi-phage type 1, one occurred in a seven-year-old girl and had no connection with the epidemic. The other three occurred in a household of five persons, the mother and two children were found to be infected with *S. paratyphi B*. Vi-phage type 1, whilst the third child was also infected with the organism but Vi-phage typing was not carried out. The father was the only person in the household who escaped.

Of the eight Liverpool cases which were not typed, one has been dealt with above; another was not typed because she was admitted to a general hospital and the culture was not sent to Dr. Felix for typing. The remaining six cases were diagnoses made on the clinical picture and serological reactions, but from which the organism was not isolated.

Table II shows the age and sex distribution. There was a preponderance of the infection in females and school children, although the latter group has been considerably affected by a localised school outbreak. The chart shows the course of the outbreak in Liverpool and the cases have been plotted in order of estimated date of onset of the first symptoms. This date was ascertained by careful enquiry at the hospital and during the home visits. The date of notification was unreliable as many cases were admitted for observation and with other diagnoses owing to the vague symptomatology of paratyphoid fever in its early stages.

TABLE I.
SHOWING THE DISTRIBUTION OF CASES ON MERSEYSIDE.

Authority	No. of notifications	Confirmed cases due to <i>S. paratyphi B.</i>	No. of cases Vi-phage Type 2	Others	Negative cases
Liverpool ...	140	77	65	4 (Type I) 8 (Not typed)	63
Bootle ...	27	15	13	1 (Type I) 1 (Type 3A1)	12
Crosby ...	30	18	17	1 (Not typed)	12
Litherland ...	1	—	—	—	1
Roby ...	2	2	1	1 (Not typed)	—
Birkenhead ...	29	11	11	—	18
Totals ...	229	123	107	16	106

TABLE II.
PARATYPHOID FEVER—LIVERPOOL CASES.
AGE AND SEX DISTRIBUTION.

Ages	Males	Females	Totals	
0- 1 year ...	2	1	3	} 14 males 7 females
1- 3 years ...	6	4	10	
3- 5 years ...	6	2	8	
5-10 years ...	15	15	30	} 19 males 24 females
10-15 years ...	4	9	13	
15-20 years ...	1	4	5	} 3 males 10 females
20-25 years ...	1	1	2	
25 years and over ...	1	5	6	
Totals ...	36	41	77	

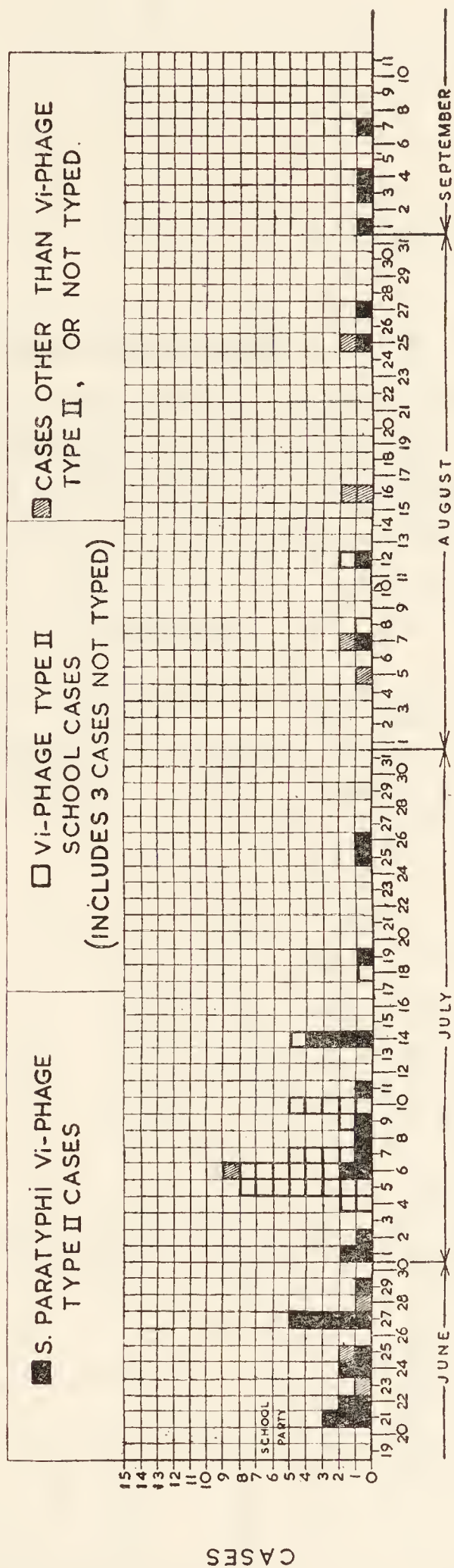
School Cases.

During the week beginning 10th July, whilst cases were being notified from all parts of the City, it was observed that a considerable number of cases (19 out of 63 of the confirmed cases during that week) came from school children in one district who all attended the same school. On investigation it was found that there had been a party in the school for children in the younger classes on 20th June, 1949, and that the parents had been invited to provide the cakes and confectionery for the party. Questioning of a few of the parents provided the information that several had bought cakes and confectionery from the suspected bakery firm for the party. The cases from School “ X ” amounted to 30 of the confirmed cases and are shown in Table II.

1949

EPIDEMIC OF PARATYPHOID FEVER—TOTAL CASES 77

CHART SHOWING CASES IN ORDER OF ESTIMATED DATE OF ONSET



DATE OF ONSET

Familial Infections.

Specimens of faeces were not taken from every member of every household where a case occurred but specimens were taken from all food handlers, children and any contacts giving a suspicious history. In six instances more than one case occurred in the family and this is set out in Table III.

TABLE III.

Family	No. in family	Clinical Cases	Symptomless excretors	Total
A	8	2	—	2
B	12	3	—	3
C	8	2	—	2
D	12	2	—	2
E	5	2	2	4 (Vi-phage Type I infection)
F	9	4	—	4

TABLE IV.

Name	Department	Result available	Fæces	Urine	Blood agglutination for S. paratyphi B.			T.A.B. Vaccination	Remarks
					H	O	Group		
1. C.M.	Confectionery	16.7.49	S. paratyphi B. Vi-phage Type 2 present	S. paratyphi B. Vi-phage Type 2 present	Pos. 1/160	Pos. 1/20	Pos. 1/40	No	? Source of outbreak
2. J.M.	Rusk	26.7.49	"	—	Pos. 1/5120	Pos. 1/160	Pos. 1/2560	No	Case
3. J.B.	Ovenman	29.7.49	"	—	Pos. 1/640	Neg. 1/20	Pos. 1/80	Yes	Symptomless excretor
4. M.N.	Clerical	27.7.49	S. paratyphi B. untypable	—	Neg. Neg.	Neg. Neg.	Neg. Pos. 1/20	No	Symptomless excretor
5. C. F.	Creamery	15.7.49	S. thompson present	—	—	—	—	No	"
6. S.B.	Confectionery	30.7.49	S. thompson present	—	Pos. 1/2560	Pos. 1/20	Pos. 1/40	Yes	"
7. S.B.	" (tray packer)	16.7.49 & 2.8.49	S. thompson present	—	Neg. 1/20	Pos. 1/20	Neg. 1/20	No	"
8. R.G.	Retail Vans	3.8.49	S. thompson present	—	Pos. 1/80	Pos. 1/160	Pos. 1/80	Yes	"
9. J.M.	Bakery	3.8.49	S. thompson present	—	Pos. 1/320	Neg. 1/20	Pos. 1/160	Yes	"
10. W.T.	Bakery	16.7.49	S. dublin present	—	Pos. 1/160	Pos. 1/40	Pos. 1/40	Yes	"

Investigations at the Bakery.

When it was discovered that the confectionery of a particular firm was suspected, the bakery was visited and our suspicions explained to the Management who offered facilities for investigation and whole-hearted co-operation.

The bakery employed 455 people and produced bread and various kinds of cakes. It had a works canteen where the staff ate bread and confectionery made on the premises and, furthermore, employees were given facilities to buy confectionery produced by the bakery at reduced prices. The only types of cakes available to employees were varieties of jam sandwich cake, and jam-spread Swiss roll. As a result of previous experience of a confectionery-borne outbreak of paratyphoid fever in Liverpool it was decided that as more than one person in the bakery was likely to be infected or excreting the organism, the entire staff of the bakery should be examined. Investigations were started in the section of the bakery dealing with synthetic cream, as this was thought to be the most likely vehicle of infection and the policy was to gradually work back to the least likely workers such as the gate-men and office staff.

Of the 455 persons on the staff, 453 submitted to examination by the staff of the Health Department, whilst the other two were investigated by their private doctors. In all 695 specimens of faeces and 694 specimens of urine were submitted to the City Bacteriologist, Liverpool, for examination, together with 473 specimens of blood for agglutination tests and 4 blood cultures.

In 10 instances there were significant bacteriological findings and these are set out in Table IV.

Taking the individuals infected with *S. paratyphi B.* separately, No. 4 (M.N.) was a typist and in no way connected with the preparation or handling of food. She frequently took home sandwich cake and Swiss roll. Her son, aged 8, was also found to be infected.

No. 3 (J.B.) was an ovenman, and did not handle the bread after it had gone into the ovens. He also was in the habit of taking home sandwich cake and Swiss roll.

No. 2 (J.M.) was off work for one week from 2nd July, 1949, with diarrhœa and headache. Immediately following this she had two weeks' holiday and was investigated on the day she returned to work. We were not aware of her illness until her return. She was employed in the rusk department in which unsold bread was subjected to a high temperature to make it into rusks, but she handled the bread before it was heated. She also took home sandwich cake and Swiss roll.

No. 1 (C.N.) was a dough moulder in the confectionery department and did not handle the pastry or sponge cakes after baking. Frequently, however, when she finished dough moulding early she helped in another section of the confectionery department ladling jam on sandwich cakes but not on Swiss rolls. The jam was spread and the cream added by other operatives, but there was no doubt that in the course of ladling the jam on the sandwich cakes she handled these cakes and her hands also from time to time came in contact with the jam.

On questioning, C.N. gave the following history. In the summer of 1944 she was ill with diarrhœa and headache for four weeks. Since then she had occasional recurrences of headache and diarrhœa which lasted for a day or two. She had one of these attacks during the first three weeks of June but could not say exactly when as she did not stay off work. Owing to staff holidays she worked at jam ladling more frequently during June and until she was sent to hospital in July. She lived alone and prepared her own meals.

From the evidence presented above it is highly probable that No. 1 (C.N.) was the carrier who started the outbreak and the vehicle of spread was from sandwich cakes.

Salmonella Excretors.

Table IV shows that in the course of the bakery investigations seven persons were discovered harbouring other *Salmonella* organisms and these were put off work until negative results were obtained. No cases of food poisoning were known to occur in the district directly attributable to this nucleus of infection in the bakery. The case M.N. (No. 4) shown in the table was found to be excreting *S. paratyphi* B. of an untypable strain, and, as stated above, her son was also found to be infected. It is of interest to note that in a specimen of cream sandwich cake from the bakery submitted for examination, Professor D. T.

Robinson, City Bacteriologist, Liverpool, isolated *Salmonella thompson* organisms.

The carrier in this outbreak had worked in the bakery for nine years but was mainly employed as a dough moulder. This was an operation which took place before baking and it may be assumed that any infection which may have reached the dough from her hands was killed by the heat of the baking process. It is interesting to speculate on whether the combination of a gastro-intestinal upset with more favourable conditions for spreading the infection led to this woman, who had worked as a food handler for years, suddenly becoming the source of an outbreak of paratyphoid fever.

Summary.

An outbreak of mild paratyphoid fever due to *S. paratyphi B*. Vi-phage type 2 occurred on Merseyside between June and September, 1949. The infection was spread by confectionery, namely, jam sandwich cake infected by a carrier employed on ladling the jam on the cakes after baking.

In addition to the widespread distribution of cases which occurred over the area where the bakery firm's confectionery was sold, a localised group of 30 cases occurred in children who attended the same school. The majority of these school cases occurred some 14 to 20 days after a party in the school.

A total of 107 cases occurred, with one death in a seven-months'-old male infant.

Register of Chronic Typhoid and Paratyphoid Excretors.

The following chronic excretors of typhoid or paratyphoid organisms are known and under observation. Bacteriological examination of faeces is carried out every six months.

Case Number	Sex	Age	Disease	Date of illness	Date faeces last positive
4	M.	61	Paratyphoid " B " fever	July, 1941	Jan. 1950
7	F.	48	"	July 1941	Jan., 1950
8	F.	45	"	Aug., 1941	Jan., 1950
13	M.	39	Typhoid Fever.	Not known	Jan., 1950
15	F.	54	Paratyphoid " B "	Oct., 1949	Jan., 1950
16	F.	24	"	Oct., 1949	Jan., 1950
17	M.	3	"	Sept., 1949	Jan., 1950

Cases No. 6 and 14 were found not to be excreting *Paratyphoid* "B" bacilli when examined in January and have been crossed off the list.

Undulant Fever.

No case of undulant fever was reported during the year.

Diphtheria.

During 1949, 129 cases of diphtheria were reported, a case-rate of 0·16 per 1,000 of the population. Of these cases, 4 proved fatal, making a fatality rate of 3·1 per hundred cases and a mortality rate of 0·5 per 100,000 of the population.

AGES AT DEATH.

Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	60—	All Ages.
1	—	—	1	1	—	—	—	—	—	1	—	—	4

AGES OF NOTIFIED CASES.

5	9	10	14	13	27	24	6	12	8	1	—	—	129
60%						40%							

PERCENTAGE FATALITY AT EACH AGE.

20·0	—	—	7·1	7·7	—	—	—	—	...	100·0	3·1
------	---	---	-----	-----	---	---	---	---	-----	-------	-----	-----	-----

Scarlet Fever.

During 1949, 1,441 cases of scarlet fever were reported, a case-rate of 1·8 per 1,000 of the population. Of these cases none proved fatal.

AGES AT DEATH.

[illegible]

AGES OF NOTIFIED CASES.

5	44	111	152	154	669	225	38	22	10	9	2	—	1,441
32.3%					46.5	15.6	5.6%						

PERCENTAGE FATALITY AT EACH AGE.

[illegible]

Immunisation against Diphtheria.

TABLE IV.

NUMBER OF DIPHTHERIA IMMUNISATIONS.

Where or by whom immunised.	1925- 38	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949.
IMMUNISATION CLINICS :												
Carnegie	2966	104	64	452	1503	205	81	32	—	—	—	—
Townsend Avenue	2128	151	167	1006	2287	688	468	385	559	476	534	430
Child Welfare Centres	3561	1096	859	2617	14436	8271	7717	8875	8343	8006	9290	7783
SCHOOLS :												
Public Elementary	34332	2978	1738	2503	7926	12907	5430	6052	8409	5658	5510	3438
Residential	3463	137	156	1021	39	378	253	408	209	51	—	33
Secondary	—	—	—	—	408	1235	154	718	244	—	—	—
HOSPITALS :												
Fazakerley	3811	124	113	66	111	69	76	68	43	17	10	22
Fever Hospitals—North, South and East	1312	238	123	50	46	40	44	30	45	38	33	—
Alder Hey	998	121	76	47	131	120	77	61	42	24	13	22
Olive Mount	751	29	2	13	74	97	118	175	148	110	46	68
Other Hospitals... ..	373	84	49	54	121	47	64	80	45	72	106	111
Miscellaneous	1239	5	8	1	45	19	6	—	11	8	—	—
Medical Practitioners	907	39	63	257	241	121	133	75	82	40	688	1611
TOTALS	55841	5106	3418	8087	27368	24197	14621	16959	18180	14500	16230	13533
GRAND TOTAL 218,042												

In addition to the above immunisations, 5,272 previously immunised children received a reinforcing injection either at school or at one of the clinics.

TABLE V.
PERCENTAGE OF IMMUNISED CHILDREN AT VARIOUS AGE GROUPS.

Age at date of immunisation	1925 45 1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	Ratio of immunised to total population at end of year.
Under 1 year	119	1	5	8	1	5	1	4	42	33	1144	1465	3413	4535	5614	5485	
1 +	712	211	180	595	905	671	413	545	2622	3576	4373	3552	1290	2222	2875	2036	Total under 5 years of age 31,621, being 41.1% of the population of this age.
2 +	711	232	340	230	524	304	282	857	1275	1181	1123	1302	916	265	744	773	
3 +	753	222	259	367	217	248	193	799	2402	577	659	732	635	380	188	509	
4 +	1197	459	513	698	710	226	204	726	2400	1124	295	609	573	420	394	207	
5 +	4435	1541	2297	1658	2286	1133	369	1254	3273	1874	1231	642	2089	1742	1760	1403	
6 +	5184	1563	2497	1820	2722	1042	771	609	2868	1742	1020	1315	1010	1164	1293	1108	Total 5-9 years of age 46,262, being 63.3% of the population of this age.
7 +	3809	872	1211	823	1110	587	284	689	1016	1514	800	978	1334	331	720	449	
8 +	1750	216	304	320	242	138	74	241	1469	747	643	774	1052	806	385	351	
9 +	928	100	75	110	99	26	32	168	1054	1550	296	684	994	561	573	153	
10 +	655	100	103	96	95	75	63	154	1061	1585	594	311	948	543	503	227	
11 +	779	120	124	115	113	90	77	182	1137	1876	550	602	394	465	293	126	Total 10-14 years of age 51,249, being 83.5% of the population of this age.
12 +	870	133	137	128	126	100	85	216	1385	2265	509	630	363	81	64	55	
13 +	788	122	125	117	114	90	78	183	1236	2086	419	583	314	107	16	43	
14 +	173	27	27	25	25	20	17	40	213	478	46	73	44	22	38	25	
15 +	1087	167	172	160	158	124	106	260	433	424	328	290	238	180	182	199	
Totals.	2400	6116	8548	7501	9666	5106	3418	5087	27365	24197	14621	16059	18180	14500	16230	13535	

TABLE VI.

DIPHTHERIA—COMPARATIVE INCIDENCE AMONG IMMUNISED AND NON-IMMUNISED CHILDREN
UNDER FIFTEEN YEARS OF AGE IN LIVERPOOL.

	1947.		1948.		1949.		Aggregate 1942/1949.	
	Immunised.	Not Immunised.	Immunised.	Not Immunised.	Immunised.	Not Immunised.	Immunised.	Not Immunised.
Number of child-years at risk ...	115,311*	86,179	121,338*	80,839	127,117*	77,893	824,296	745,279
Diphtheria cases	28	266	8	202	4	98	343	4,877
Annual rate of incidence per 1,000 child-years	0·24	3·08	0·065	2·49	0·031	1·25	0·41	6·54
Ratio	1 to 12·8		1 to 38·3		1 to 40		1 to 15·9	
Diphtheria deaths	1	11	0	10	0	3	3	232
Annual rate of dying per 1,000 child-years	0·008	0·12	Nil	0·12	Nil	0·38	0·0036	0·31
Ratio	1 to 15		—		—		1 to 86	

* Consisting of (a) all children under 13 immunised before the end of the previous year; (b) five-sixths of the children of 13 years and one-sixth of the children of 14 years immunised before the end of the previous year; (c) three-quarters of the children immunised during the first half of the year of risk and (d) one-quarter of the children during the last half of the year of risk.

Measles.

During 1949, 5,930 cases of measles were reported, representing a case-rate of 7·4 per 1,000 of the population. The number of deaths was 12, making a fatality-rate of 0·2 per 100 cases and a mortality-rate of 1·4 per 100,000 of the population.

DEATHS FROM MEASLES.

AGES AT DEATH.													
Under year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	60—	All Ages.
6	4	1	—	—	—	1	—	—	—	—	—	—	12

AGES OF CASES.

383	850	1,110	981	767	1,745	60	34					5,930
-----	-----	-------	-----	-----	-------	----	----	--	--	--	--	-------

PERCENTAGE FATALITY AT EACH AGE.

1·6	0·4	0·1	0·1	—	—	1·7	—					0·2
-----	-----	-----	-----	---	---	-----	---	--	--	--	--	-----

Whooping Cough.

During 1949, 2,791 cases of whooping cough came to the notice of the Health Department, a figure representing a case-rate of 3·5 per 1,000 of the population. Of these cases 57 proved fatal, corresponding to a death-rate of 7·1 per 100,000 of the population.

Number of deaths from Whooping Cough at various age periods during 1949.							Total deaths all ages.	Deaths expressed as a percentage. of total deaths.						
under 1 year.	1+	2+	3+	4+	5+	10+		under 1 year.	1+	2+	3+	4+	5+	10+
41	12	2	1	—	1	—	57	71·9	21·1	3·5	1·7	—	1·7	—

Cerebro-spinal Fever.

TABLE VII.

CASES AND DEATHS DURING 1949 AND NINE PREVIOUS YEARS.

	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949
Cases	468	453	201	83	58	47	48	72	47	39
Deaths	84	79	38	22	21	9	13	13	11	15
Fatality-rate per 100 cases	17·9	17·4	18·9	26·5	36·2	19·1	27·1	18·1	23·4	38·5

Poliomyelitis and Polioencephalitis.

During the year there occurred 54 cases of poliomyelitis with 2 deaths and 12 cases of polioencephalitis, 2 of which proved fatal. The following table gives the age distribution of the notified cases:—

Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	35—	45—	Total
4	6	10	10	4	12	6	2	7	2	3	66

Deaths from Influenza and other Respiratory Diseases.

TABLE VIII.

	Yearly average number of deaths.	Percentage proportion to all deaths.	Respiratory death-rate per 1,000 population.	Death-rates compared with the 1871-80 death-rate called 100.
1871-80 ...	2,976	20·2	5·7	100
1881-90 ...	3,251	23·2	5·9	104
1891-1900 ...	3,582	24·6	5·9	104
1901-10 ...	3,299	21·8	4·5	79
1911-20 ...	3,648	27·3	4·7	83
1921-30 ...	2,904	24·7	3·5	61·4
1931-40 ...	1,762	15·1	2·1	36·8
1941... ..	2,226	16·8	3·2	56·1
1942... ..	1,403	14·9	2·1	36·8
1943... ..	1,856	19·1	2·8	49·1
1944... ..	1,344	14·9	2·0	35·1
1945... ..	1,620	17·0	2·3	40·3
1946... ..	1,462	15·1	2·0	35·1
1947... ..	1,675	16·5	2·2	38·6
1948... ..	1,198	13·3	1·5	26·3
1949... ..	1,590	17·0	1·9	33·3

Dysentery.

During 1949, 444 cases of bacillary dysentery were reported in the city—Sonne 388, Flexner 46, Newcastle 1, and clinical diagnosis only, 9. In addition, there were 5 cases of amoebic dysentery, 3 of which were contracted abroad.

CREMATION.

The number of cremations which took place at the Liverpool Crematorium during 1949 was 1,299, the highest number yet recorded.

MATERNITY AND CHILD WELFARE.

VITAL STATISTICS.

Live births	...	...	16,551	Live birth rate	...	...	20·7
Still-births	...	...	358	Still-birth rate	...	...	0·4
Total births				...	...	16,909	
Infant Mortality rate				...	...	...	44
Neo-natal Mortality rate				...	...	...	20·1
Maternal Mortality rate				...	...	...	0·53

THE MIDWIFERY SECTION.

During the year, 301 midwives gave the required notice under Section 10 of the Midwives Act, 1902, of their intention to practise midwifery in this city. The number of municipal midwives at the end of 1949 was 55. They attended:—

Midwifery cases	...	...	3,100
Maternity cases	...	...	575
			— 3,675

Statement of Notifications of Live and Still Births received during the year 1949.

	Live Births.	Still Births.	Total.	Still Births per cent. of Total.
Midwives (Municipal)	3,207	45	3,252	1·4
„ (Independent)	98	4	102	4·0
Medical Practitioners	1,107	20	1,127	1·8
Liverpool Maternity Hospital ...	2,503	77	2,580	3·0
Other Hospitals	10,295	252	10,547	2·4
District Homes	898	4	902	0·4
	18,108	402	18,510	2·2

The number of still-births notified was 402, of which 73 were notified by midwives. Enquiries were made into the circumstances of all still-births.

Visits paid by Midwifery Staff.

Routine and special visits to midwives	...	...	..	...	1,680
Visits regarding claims for fees from medical practitioners for attendance in emergency cases	...	...	...	...	1,545
Visits in respect of ophthalmia neonatorum	...	...	...	...	6,302
Special visits (puerperal pyrexia, venereal diseases, etc.)	...	...	...	...	398

Medical Assistance.

Under the rules of the Central Midwives Board, midwives sought medical aid in 1,899 cases—1,345 mothers and 554 children.

Consultant Services.

The total number of occasions on which the services of a consultant obstetrician were requisitioned in connection with cases of puerperal emergencies or complications during pregnancy was 41.

Prevention of Spread of Infection.

Thirteen municipal midwives were suspended from practice in order to prevent the spread of infection.

Public Health (Notification of Puerperal Fever and Puerperal Pyrexia) Regulations, 1926, 1928 and 1939.

The number of cases of puerperal pyrexia notified during the year was 181. Of these, 173 were admitted to or occurred in hospitals, and 8 occurred in the practice of midwives, and in 4 cases nurses were provided.

Maternal Mortality.

The number of live and still births registered in the city, together with maternal deaths and maternal death-rates, are as follows:—

BIRTHS REGISTERED.				MATERNAL MORTALITY.					
Year.	Live Births.	Still Births.	Total Births.	Puerperal Sepsis.		Other Puerperal Causes.		Total.	
				Deaths.	Rate per 1,000 Total Births.	Deaths.	Rate per 1,000 Total Births.	Deaths.	Rate per 1,000 Total Births.
1927	19,020	735	19,755	25	1.26	58	2.94	83	4.20
1928	19,120	816	19,936	19	0.95	45	2.26	64	3.21
1929	18,888	753	19,641	26	1.32	40	2.04	66	3.36
1930	18,881	774	19,655	16	0.81	59	3.00	75	3.81
1931	18,626	722	19,348	20	1.03	35	1.81	55	2.84
1932	18,149	827	18,976	16	0.84	35	1.85	51	2.69
1933	16,929	680	17,609	29	1.65	31	1.76	60	3.41
1934	17,593	685	18,278	25	1.37	26	1.42	51	2.79
1935	17,347	749	18,096	29	1.60	30	1.66	59	3.26
1936	17,403	708	18,111	20	1.10	44	2.43	64	3.52
1937	16,728	618	17,346	10	0.58	30	1.73	40	2.31
1938	16,175	639	16,814	11	0.65	22	1.31	33	1.96
1939	15,614	631	16,245	5	0.32	24	1.54	29	1.86
1940	15,016	519	15,535	7	0.45	24	1.56	31	2.01
1941	13,291	508	13,799	9	0.68	23	1.74	32	2.42
1942	13,729	552	14,281	14	0.98	20	1.40	34	2.38
1943	14,432	485	14,917	12	0.80	22	1.47	34	2.27
1944	15,412	492	15,904	13	0.82	18	1.13	31	1.95
1945	14,784	431	15,215	7	0.46	16	1.05	23	1.51
1946	18,528	539	19,067	2	0.10	17	0.89	19	0.99
1947	19,904	514	20,418	1	0.05	16	0.78	17	0.83
1948	17,695	479	18,174	3	0.16	11	0.60	14	0.77
1949	16,551	358	16,909	4	0.24	5	0.29	9	0.53

The table above shows a very remarkable decline in maternal mortality during the past 23 years. It will be seen that this decline has affected both deaths from puerperal sepsis and also those from other causes. The death-rate from puerperal sepsis in Liverpool has normally been lower than in the country as a whole.

The decrease has been particularly rapid during the last four years and unquestionably this is due to the extending use of sulphone drugs and penicillin. The decline in other puerperal causes has been more consistent but has not reached the same degree. It is probable that the table as a whole shows a marked improvement in the care of both the expectant mother and of the patient in labour. This is an achievement of which the City can well be proud. Amongst the causes that are operative in the decline of deaths from other puerperal causes may, not improperly, be mentioned improved nutrition,

Special Investigation of Maternal Deaths.

As a result of inquiries it was found that 19 deaths occurred owing to pregnancy, child birth or concurrent diseases, such as heart disease or lung disease associated with pregnancy:—

Class I—Deaths directly due to childbearing ... 9

Class II—Deaths not primarily due to pregnancy ... 10

Ophthalmia Neonatorum.

Inflammation of the eyes of the newly-born.

The number of cases brought to the notice of the department and treated during the year was 940, namely:—

Mild cases	...	...	...	...	...	854
Severe cases	...	...	...	...	...	86
Cases brought forward from previous year	...					29
Loss of sight	...	...	...	...	...	—
						—
Total						969
						—

During the year, 12 babies were admitted to hospital.

Arrangements are made with the City Bacteriologist to examine the discharge from inflamed eyes in the newly-born, namely:—

No. of cases brought to the notice of the department.	Cases from which specimens were examined by the City Bacteriologist and at Hospital.	No. of cases of positive Gonorrhoea.	Percentage to total cases examined.	Percentage to total notifications.
940	139	18	13·0	1·0

Nursing Homes.

Two registrations were cancelled during the year. The nursing homes on the register at the end of the year numbered 17, the approximate number of beds being 231. Babies born in nursing homes numbered 614, including 2 twin births,

THE HEALTH VISITORS' SECTION.

Ante-Natal and Post-Natal Clinics.

Total number of centres at which ante-natal clinics are held	23
Number of clinic sessions held per week	47
„ „ post-natal sessions held per week, separately from ante-natal	(5)
„ „ new cases attending ante-natal clinics	13,284
Total attendance at ante-natal clinics	57,274
„ „ „ post-natal „	1,719

Child Welfare Clinics.

Total number of centres at which child welfare clinics are held	23
Number of clinic sessions held per week	43
„ „ new cases—Under 1 year of age	10,250
Aged 1–5 years	623
Total attendances—Under 1 year of age	96,515
Aged 1–5 years	14,361

Statistics relating to Home Visits.

Visits to expectant mothers by health visitors	7,294
Number of births visited during the year	16,061
Re-visits to infants during the 1st year	74,468
„ „ „ aged 1 year to 5 years	129,918
Visits paid to homes of nurse children	623
Visits to children discharged from hospitals	1,441

Visits to cases of Infectious Disease —

Visits to cases of measles	7,826
„ „ „ „ pneumonia	—
„ „ „ „ infantile diarrhœa	254
Enquiries into deaths due to diarrhœa	81

Children under five years of age were referred for special treatment to the School Health Department as follows:—

Defective vision	315
Otorrhœa	2
Orthopædic defects	283

Care of Illegitimate Children.

During the year, the City Council continued the payment of grants to the voluntary organisations undertaking work in connection with unmarried mothers and illegitimate children.

Careful watch is kept over all these children by the Maternity and Child Welfare Department, and co-operation between the staff of that Department and the various voluntary workers is very close. A live register of all illegitimate children enables this surveillance to be continuous.

Neo-natal Mortality.

The number of neo-natal deaths amounted to 333, equal to a rate of 20·1 per thousand live births registered. Special enquiry was made into the deaths of all children who died within 28 days after birth.

Premature Infants.

On discharge from hospital, information relating to the condition and feeding of premature children is forwarded to the Medical Officer of Health. This ensures an early visit to the home from a health visitor or midwife, whichever is more appropriate to individual needs, and continued care is given until the mother is able to look after the child herself.

Evidence points to maternal nutrition being an important factor in the causation of prematurity. With this in view, advice is tendered in the ante-natal clinics to expectant mothers on their feeding during pregnancy, and every endeavour is made to persuade them to take up the priority foods and vitamin preparations available for them.

Dental Treatment of Expectant and Nursing Mothers and Pre-School Children.

It is, unfortunately, not possible to report that much progress was made in 1949 in the actual treatment of expectant and nursing mothers and children of pre-school age because the shortage of dental officers, to which reference was made in the last report, has not been made good.

Vacancies for part-time dental officers were advertised during the year but, owing to the fact that the present salary scale compares very unfavourably with the fees that can be earned in private practice under the Health Service, there were no applicants. It appears that until the

the negotiations for the increase and standardisation of the scale of salaries for public dental officers which are at present occupying the attention of the Whitley Council are concluded, there is little hope of attracting dental surgeons to this most important work.

The part-time dental officer of the Department agreed, however, to increase the number of sessions worked for the department from three to five per week. As a result, it was possible to arrange for time to be spent upon the dental inspection of the mothers attending the St. Anne Street Welfare Centre, and a room at this Centre was equipped for the purpose. This was the first step towards the systematic dental inspection by the dental surgeon of all patients attending the Centres (as distinct from reference by the medical officers of urgent cases only) which will, when staff becomes available, be the universal practice. It is in this way that it is hoped, in the future, to ensure that treatment directed to the preservation of the teeth of these patients will be facilitated by means of early recognition of the commencement of decay.

Steps have been taken to improve and extend the clinic facilities so that no delay may be experienced, when staff becomes available, in providing fuller dental treatment for mothers and pre-school children.

The rooms at the Westminster Road Welfare Centre which were formerly used as a Milk Centre have been adapted as a dental surgery and recovery room, and a full equipment is available so that these premises can be used as an up-to-date dental clinic at very short notice. Furthermore, the dental rooms at the Welfare Centre in Upper Parliament Street have been renovated and re-equipped and the temporary arrangement under which the patients from this Centre received their dental treatment at the Great George Square Day Nursery has been discontinued.

The Ministry of Health, in their Circular 2/50 of the 25th January, 1950, requests that the annual return of dental work carried out under the scheme shall be presented in a particular form showing, *inter alia*, the number of patients examined by the dental surgeon and the proportion of these who not only agreed to treatment but were rendered dentally fit.

It has been explained that, because of staff shortage, there has not been, until recently, any systematic inspection of these patients by the

dental surgeons who had been engaged solely in carrying out remedial treatment as requested by the Medical Officers. It has not been found possible, therefore, to complete the return of work done during 1949 in the form requested by the Ministry but, as systematic dental inspections have now been commenced, this information will be embodied in future reports.

The amount of dental work which has been carried out in the clinics during the year by the part-time dental officer of the Department and School dental officers on behalf of the Department may, therefore, be summarised as follows:—

		Total attendances.	Teeth extracted.	Fillings.	Scalings.
Expectant mothers	...	2,315	7,343	—	5
Nursing mothers	...	817	3,229	—	1
Children under 5	...	219	281	—	—

No dentures have been supplied by the Department but arrangements were made whereby the mothers who had teeth extracted in the clinics received dentures, when required, as priority cases under the National Health General Dental Service.

Day Nurseries.

The following nurseries were available for the children of women in employment or who, for domestic reasons, could not care for their children themselves:—

						Accommodation for
Banks Road Hut, Garston (19)	...	...	...	...	50	children
25, Derwent Road (13)	...	...	...	...	67	„
1, The Elms, Dingle (8)	...	...	...	...	36	„
18, Great George Square (1)	...	...	...	...	74	„
25, Grove Park, Lodge Lane (8)	...	...	...	...	58	„
12, Holly Road, Fairfield (7)	...	...	...	...	74	„
Mill Road Nurses' Home (6)	...	...	...	...	70	„
Orwell Road Hut, Kirkdale (4)	...	...	...	...	50	„
Salisbury Street Council School, Everton (3)	...	...	...	...	63	„
5/7, Swiss Road, Fairfield (6)	...	...	...	...	60	„
97/99, Upper Canning Street (8)	...	...	...	...	62	„
Wavertree Playground Hut (15)	...	...	...	...	50	„
262/264, Westminster Road, Kirkdale (4)	...	...	...	...	45	„
1, Rose Lane, Mossley Hill (18)	...	...	...	...	42	„

Infestation by Head Lice.

Health visitors continue to give increased attention to infestation by head lice of children under the age of five years. Nursery Matrons and school nurses have been asked to refer to the health visitors those families from which lice-infested children have attended nurseries or schools.

It has always been the practice to examine children where the personal cleanliness of the family is in doubt, but it is not always easy to obtain the co-operation of the mother and older members of the family. Quite frequently mothers resent any examination being made of members of the family who are suspected of re-infesting the children who have been cleansed.

Between 1st January and 31st December, 1949, 352 children under the age of five years were found by the health visitors to be verminous. In all cases, advice was given as to cleanliness and 304 of the mothers (or guardians) agreed to carry out instructions as to disinfestation. In 48 cases, however, they preferred to go to a cleansing station. In a few instances, improvement was maintained, but a hard core is still unsatisfactory. This is a problem which has engaged the attention of health visitors and school nurses for many years, and the difficulties in dealing with people who have no desire to be clean are increased by present conditions, such as soap rationing, and to the fact that many women are engaged in work, whilst at the same time endeavouring to carry on their home duties. In such families, the children are frequently not well cared for, especially in regard to personal hygiene.

The heads of 92 mothers were cleansed—81 at home and 11 at cleansing stations.

WELFARE SERVICES.

The National Assistance Act, 1948 came into operation on 5th July, 1948, and the Public Health Department assumed responsibility for the organisation and administration of services provided by the Council under this Act. A Welfare Services Section has been formed and its main functions include—

(a) The provision of:

- (i) residential accommodation for persons who by reason of age, infirmity or any other circumstances are in need of care and attention which is not otherwise available to them;
- (ii) temporary accommodation for persons who are in urgent need thereof owing to circumstances which could not reasonably have been foreseen such as fire, flooding or eviction.

(b) Welfare arrangements for blind, deaf, dumb and crippled persons.

(c) Assistance to voluntary organisations which provide recreation and meals for old people.

(d) Registration and inspection of disabled persons and old persons' homes.

(e) Registration of charities for disabled persons.

(f) Removal to suitable premises of persons in need of care and attention.

(g) Protection of movable property of persons admitted to hospital or to accommodation provided under Part III of the Act.

(h) The burial or cremation of the dead where no other person is making suitable arrangements.

A Chief Welfare Officer was appointed to control the Welfare Services Section and commenced duty on 1st February, 1949. The staff of the Section was increased during the year by the appointments of a Senior Administrative Assistant and an Administrative Assistant. Only one Welfare Visitor was employed during the whole year but two additional Visitors were appointed and commenced duty in September.

When the Act came into operation residential accommodation was provided in the following establishments:—

Kirkdale Homes	...	...	1,142 beds.*
New Grafton House	...	...	36 ,,
Belmont Road Hospital	...	...	121 ,,

(*An additional 389 beds at this establishment are reserved for the use of Regional Hospital Board patients.)

Kirkdale Homes was very much overcrowded and the Council's Scheme for the exercise of their functions under Section 21 of the Act provided that every effort should be made to reduce the numbers of persons maintained in that establishment as soon as possible.

During the year additional accommodation was provided as follows:—

Moreno House	...	...	...	30 beds.
New Grafton House	...	...	...	34 ,,
Park House	...	...	...	21 ,,

The beds at Kirkdale Homes were reduced to 1,065 making a net gain in available accommodation of 8 beds. Every effort has been made to provide additional accommodation by the acquisition of large houses suitable for conversion into homes for old people, by adapting further portions of New Grafton House and by seeking authority to build a new model hostel. Plans for this building, to accommodate 46 old people, were submitted to the Ministry of Health for provisional approval in August. The adaptation of 5 houses for use as old people's homes has been approved by the Council and the Ministry, and these premises, together with additional rooms at New Grafton House, will provide accommodation for a further 200 persons. The opening of these small homes will make it possible further to reduce the number of beds in occupation at Kirkdale Homes.

Temporary accommodation for evicted families has, since 5th July, 1948, been provided in the former Casual Wards at Newsham General Hospital. During the year additional temporary accommodation of the rest centre type, for some 46-60 persons has been provided in the former relief office at Walton Village and can be brought into use in emergency at short notice.

RESIDENTIAL ESTABLISHMENTS.
STATEMENT OF ADMISSIONS, DISCHARGES AND DEATHS.

Establishment.	Remaining 31/12/48.	Admitted.	Discharged.	Died.	Remaining 31/12/49.
Kirkdale Homes ...	1,118	746	687	179	998
New Grafton House	36	60	26	—	70
Newsham General Hospital ...	89	704	691	—	102
Moreno House ...	—	39	10	—	29
Park House ...	—	18	—	—	18
TOTAL ...	1,243	1,567	1,414	179	1,217

PERSONS MAINTAINED IN ESTABLISHMENTS PROVIDED BY OTHER AUTHORITIES
AND VOLUNTARY ORGANISATIONS.

STATEMENT OF ADMISSIONS, DISCHARGES AND DEATHS.

Authority or Organisation.	Remaining 31/12/48.	Admitted.	Discharged.	Died.	Remaining 31/12/49
North Regional Association for the Blind	1	—	—	—	1
Herefordshire County Associa- tion for the Blind	1	—	—	—	1
Manchester and Salford Society for the Blind	1	—	—	—	1
Catholic Blind Asylum, Liverpool	23	1	—	—	24

Authority or Organisation.	Remaining 31/12/48.	Admitted.	Discharged.	Died.	Remaining 31/12/49
Home for Epileptics, Maghull...	40	6	1	—	45
Flintshire County Council ...	1	—	—	—	1
Langho Epileptic Colony ...	17	—	1	—	16
St. Vincents Hospice, L'pool ...	37	5	8	9	25
Cotebrook Home for Cripples, Lymm	1	—	—	—	1
David Lewis Manchester Colony	2	—	—	—	2
Turner Memorial Home, Dingle, Liverpool	12	2	—	—	14
Mary Fowler Home, Liverpool...	12	12	—	—	24
Methodist Home for the Aged, Liverpool	4	4	—	—	8
Corporation of Bristol, Fishponds Road	1	—	—	—	1
Northern County Homes for Deaf Women, Barrowford ...	1	—	—	—	1
Limes Hostel, Standish, Wigan	1	—	—	—	1
Dowesfield Home, Liverpool ...	5	—	5	—	—
Bootle County Borough— Connolly House	—	2	—	—	2
Poolemead Home for Deaf Women, Bath	1	—	—	—	1
Lancashire County Council— Whiston Institution	1	—	—	—	1
West Ham County Borough ...	1	—	—	1	—
Southport County Borough— Leyland Road Hostel ...	1	—	—	—	1
Westmorland C.C.	—	1	—	—	1
Church Army Home, Bootle ...	—	1	—	—	1
London C.C.	—	2	2	—	—
Darlington C.B....	—	5	1	—	4
Middlesex C.B.	—	3	3	—	—
Portsmouth C.B.	1	—	—	—	1
City of Edinburgh	—	1	1	—	—
Manchester C.B.	—	2	1	—	1
Liverpool Personal Service Society	—	1	—	—	1
Salvation Army Home, Bootle	—	4	—	—	4
Total	165	52	23	10	184

Section 47 of the National Assistance Act, 1948, provides for the removal to suitable premises of persons in need of care and attention. The following is a resumé of action taken during the year in regard to four cases under this section:—

1. D.G. A man aged between 70 and 80 years who was living alone in insanitary conditions and causing a nuisance to other persons. Of very filthy habits, he lived in a bare, unheated room, never removed his clothes and when seen was lying in a bed covered by old sacking with excretory matter dripping from the mattress. He was suffering from early senile dementia. Authority was obtained to apply to a court of summary jurisdiction for an order for compulsory removal but before application could be made the man was admitted to accommodation provided by the Regional Hospital Board.

2. S.McC. An old lady aged 76 years, living alone in one room in insanitary conditions, who was unable to devote to herself and was not receiving from other persons proper care and attention. She also had a heel injury, was deaf and had poor vision. The period mentioned in the order of the Court was for not exceeding three months. The order was carried into effect and the old lady was admitted to hospital on 25th April, 1949. She subsequently died on 16th July, the cause of death being cerebral haemorrhage.

3. McE. An old lady aged 69, living alone in a house in insanitary conditions. She was somewhat confused mentally and unable to devote to herself and was not receiving from any other person proper care and attention. The period mentioned in the order of the court was for not exceeding three months. The order was carried into effect and the woman was admitted to hospital.

4. M.A.B. An old lady aged between 65 and 70 years, who was living alone in insanitary conditions in a basement room. She was in a very dirty state and had an inflammatory condition of the right leg. The woman was unable to devote to herself and was not receiving from other persons proper care and attention. Authority was obtained to apply to a court of summary jurisdiction for an order for compulsory removal, but in the meantime the patient was admitted to hospital where she died two days later from senile myocarditis.

There was a steadily increasing flow of requests for assistance necessitating home visits by Welfare Visitors, and the following table gives details of the numbers of requests received during the months of June to December, inclusive, and the numbers of visits and revisits made by officers of the Welfare Services Section:—

Requests for advice and help:—

(a) Telephone	...	...	...	...	749
(b) Letter	...	...	...	...	106
(c) Personal application			...	...	303
No. of visits paid	...	...	...	...	743
No. of revisits	...	...	...	...	364
No. of cases admitted to:—					
(a) residential accommodation	...	...	...	...	57
(b) hospital	...	...	...	...	12
No. of cases referred to Housing Department					
for exchange of accommodation			...		10

Under Section 48 of the National Assistance Act, 1948, it is the duty of the City Council to provide temporary protection for property of persons admitted to hospitals, etc. In the exercise of this duty officers of the Welfare Services Section made 530 visits and revisits to the homes of persons in hospitals and institutions during the months of June to December, inclusive:—

The sections of the Act dealing with the registration and inspection of disabled persons and aged persons' homes, came into operation on 1st November, 1949. These homes, whether run for reward or not, must be registered by the City Council, and it will be an offence for any person to carry on a registerable but unregistered home after 1st July, 1950. A number of applications for the registration of homes were received and arrangements made for their inspection with a view to recommending their registration.

The City Council has power, under Section 29 of the National Assistance Act, 1948, to make arrangements for promoting the welfare of persons who are blind, deaf or dumb or substantially or permanently handicapped by illness, injury or congenital deformity. The Minister of Health has directed local authorities to exercise their powers in the

case of blind persons but has not given directions with regard to other classes of handicapped persons. The Council's Scheme under Section 29 of the Act provided that they should employ as their agents, for the purposes of that section, local voluntary organisations interested in the welfare of blind and partially-sighted persons.

During 1949, 153 applications for admission to the register of blind persons were examined by ophthalmic surgeons. Of these 127 were found to be blind and 26 not blind. In accordance with the wishes of the Minister of Health, an observation register is being compiled of partially-sighted persons to whom are being extended those parts of the welfare services for the blind as may be appropriate.

The following table shows the number of registered blind persons in Liverpool:—

Age.			Males.	Females.	Total.
0	...	...	—	—	—
1	...	...	—	—	—
2	...	...	—	2	2
3	...	...	2	2	4
4	...	...	1	—	1
5—10	...	...	7	6	13
11—15	...	...	8	12	20
16—20	...	...	16	10	26
21—30	...	...	44	28	72
31—39	...	...	47	54	101
40—49	...	...	109	74	183
50—59	...	...	132	116	248
60—64	...	...	82	103	185
65—69	...	...	70	133	203
70 and over...	...	...	236	389	625
TOTALS			754	929	1,683

There are facilities in Liverpool for the employment of suitable blind persons in workshops and over 100 employees are engaged in the trades of brush-making, basket-making, mat-making, etc. The valuable co-operation of the Ministry of Labour and National Service is appreciated in all matters affecting the employment of blind persons.

At the present time 7 blind persons are employed as Home Workers in the following occupations:—

- 1 Basket worker—male.
- 1 Braille copyist—male.
- 2 Chair seaters—female.
- 1 Knitter—female.
- 2 Music teachers—female.

Consultations have been held with local voluntary organisations concerned with the welfare of deaf and dumb persons but the negotiations during the year did not reach a stage when it was possible to prepare a scheme under which welfare services for these handicapped persons could be provided.

MENTAL HEALTH.

The Mental Health Section is responsible for the following types of service to the community:—

- (a) Taking initial action in cases of mental disorder and deficiency.
- (b) Undertaking legal procedure in connection with admissions to mental and mental deficiency hospitals.
- (c) Supervising and training mental defectives.
- (d) Taking measures for prevention, care and after-care.

Of these, the first three are administered in accordance with provisions of the Lunacy, Mental Treatment and Mental Deficiency Acts as embodied in the National Health Service Act, the fourth, provided for in this last Statute, is a service new to local authorities.

The initial action and legal procedure are duties which, though of the greatest importance, are unlikely to change in nature until new legislation is introduced, but in the supervision and training of defectives and, particularly, in the prevention, care and after-care service there is much scope for development. Under these two headings some interesting progress has been made during this year.

The greatest importance is attached to the spirit in which this Service is administered. In dealing with mentally abnormal people it is essential to aim at a maximum of sympathetic understanding with a minimum of formality. The expressions of appreciation received during the year can, it is hoped, be regarded as evidence that the Service is not failing in this respect.

This humane approach helps also in removing the misconceptions which unfortunately still exist in the minds of many members of the public as to the nature of mental illness, the difference between it and mental deficiency, and the facilities for treatment which now exist. The widespread ignorance on these subjects, which is by no means confined to the poorer classes, is a matter for concern and it is hoped to take further steps in the education of public opinion in the coming year.

Administration.

(a) Constitution of Mental Health Sub-Committee.

The Sub-Committee of the Health Committee administering the service consists of a Chairman, Deputy-Chairman and 10 other members.

Meetings are held on the first Monday in each month.

(b) Staffing.

During the year an establishment was set up. This is shown in the following Table together with the number of posts actually filled at the end of the year and the qualifications of the officers filling them.

Establishment		Officers as at 31.12.49	
Post	No.	No.	Qualifications
Assistant Medical Officer of Health	1	1	M.B., Ch.B., D.P.H.
Senior Administrative Assistant ...	1	1	D.P.A.
Administrative Assistant	1	1	
Senior Authorised Officer	1	1	R.O. Certif.
Psychiatric Social Worker	1	—	
Duly Authorised Officers	12	12	7 with R.O. Certif.
Female Mental Health Visitors ...	6	3	1 M.A., 1 S.E.A.N.
Clerks and Typists	8	7	
OCCUPATION CENTRE.			
Senior Supervisor	1	1	Dipl. M.H. Assn. A.L.C.M.
Supervisors and Assistants... ..	6	5	
Domestics	4	4	

The appointment of Dr. R. G. Thomas as Assistant Medical Officer of Health in charge of the service has been fully justified and the demands on his time have been heavy. Apart from his administrative development of the service generally he examined 150 individuals between June and December. Details of these examinations are given later in this report.

A disturbing feature of the staffing problem is the inability to secure the services of a Psychiatric Social Worker. It is evident that the demand for these officers far exceeds the supply, and at the end of the year the Committee was considering an approach to the University and other bodies with a view to training facilities being extended.

Duly Authorised Officers take part in all the branches of mental health work. Most of them were formerly Relieving Officers, and the Medical Officer is glad to say that they have used their poor law experience of social conditions for the betterment of the service.

From June onwards Duly Authorised Officers performed night and week-end duties, on a weekly roster system, from their own homes instead of from the administrative office. This system has worked well and will be continued.

(c) Co-ordination with Regional Hospital Board and Hospital Management Committees.

To a very large extent the success of the prevention and after-care service is dependent upon co-operation with the hospital authorities. This has been satisfactorily maintained during the year. Each Mental Hospital notifies the Health Department of discharges and the ex-patients are then visited in their own homes. 595 visits were also paid to mental defectives on licence from hospitals.

The excellent co-operation which exists with the psychiatric out-patient clinics ensures that patients can be advised to accept treatment at the earliest stage of illness and thus prevent the onset, in many cases, of more serious illness.

At Walton Hospital a Duly Authorised Officer is attached to the Clinic to provide histories of patients and perform after-care work on completion of treatment, and though this actual attachment has not yet been extended to other Clinics much similar work is done on their behalf.

The Medical Officer of Health continues (by virtue of his University appointment) to be a member of the Regional Hospital Board, with consequent advantage to co-ordination.

(d) Voluntary Associations.

The Committee gratefully received a contribution from the West Lancashire Association for Mental Welfare towards the cost of a Christmas party for children attending the Occupation Centre.

Apart from this, there has been little activity on the part of the Association which, however, remains in being and may later resume its activities.

The local office of the National Association for Mental Health was closed in April, and about 50 after-care cases were transferred to the Mental Health Service.

The Committee subscribes to membership of the National Association and avails itself of the facilities offered by the Association, including the library and pamphlet service.

(e) Training of Mental Health Workers.

Duly Authorised Officers and others in 1948 undertook a month's course of training and a number have had short refresher courses this year. In addition, the Committee at the end of the year was contemplating the introduction of a course for Occupational Centre Supervisors and similar workers in view of the shortage of existing facilities for training this type of staff.

The department is affording practical training to students in the Social Science Department of the University who work for periods with the Duly Authorised Officers and Visitors. The Medical Officer strongly favours this co-operation with the University and hopes that it may be extended.

WORK UNDERTAKEN.

(a) Under Section 28 of the National Health Service Act—Prevention, Care and After-care.

The number of people referred as being in need of care was 514. They included people who had been discharged from mental hospitals or completed clinic treatment, ex-members of the Forces discharged as a result of mental abnormality, persons referred by medical practitioners, people who were not willing to accept mental treatment but who welcomed visits and advice, and mental defectives discharged from Order :

a further development during the year, also, was the reference of cases by the Prison Authority.

1,695 visits were paid to the homes of these people and, in addition, 523 interviews took place at the office. A full report was written after each visit or interview and the reports were read by the Assistant Medical Officer of Health in order to keep a check on the adequacy of the action taken. Many case-histories were also prepared for the use of the Psychiatrists at Clinics and Hospitals, and there can be no doubt that this first-hand information about homes and backgrounds of patients has greatly assisted in the early treatment of patients.

Figures can, however, give little indication of the value of care and after-care work. Whilst there are a few spectacular successes there are many more cases in which, by unobtrusive, friendly contact and advice on personal matters, an officer does much to assist in maintaining recovery from illness or to prevent illness developing. Often the time and patience given to such cases may seem disproportionately high to the results achieved but, in fact, successes are to be seen here in the intangible terms of happier lives.

No care scheme can afford to ignore the effect that bad housing and unemployment may have on mental health. Time after time during the year it has been found that mental illness has been bred in the atmosphere of hopelessness produced by overcrowding and squalor or has resulted from worry and loss of self-confidence arising out of unemployment.

Though the possibilities of re-housing are always under review there is not a great deal that can be done at the moment, but the problem of rehabilitation into the community by means of employment has been faced with some success and is important enough to be considered in some detail.

Thirty-four men and five women were placed in employment during the year as follows :—

MEN	WOMEN
17 Labourers, etc.	3 Maids
13 Skilled or semi-skilled manual work	1 Machinist
2 Clerks	1 Clerk
1 Temporary Postman	
1 Trainee Cinema Operator	

Not all of them were able to retain their posts—6 were unsatisfactory, 1 refused to work, 3 were re-admitted to mental hospitals and 4 left owing to other sickness. This wastage can obviously be expected.

Details of 4 cases are given to illustrate the work being done:—

A. A female defective aged 32, on licence from a Mental Deficiency Hospital. When the patient was referred she had already been on licence for two years and had not found employment. In February she was placed as a Kitchenmaid in a large City Store at wages £3 3s. 0d. weekly. Her progress has been so satisfactory that she is now employed as Assistant Cook at wage £4 10s. 0d. Assistance in any difficulties she has is given by means of continued home visits.

B. A man aged 47, with a public school background, who had held responsible administrative positions. During his career he had been involved in several accidents, including an air crash and subsequent ill-health had forced him to retire from business.

He was referred after having been charged with an assault and bound over by the Court on condition that he accepted appropriate treatment.

On interview he was very depressed but accepted treatment as a voluntary patient. On discharge from hospital after two months' treatment the question of employment arose. A physical disability, Phlebitis, prevented him from taking up his former work but employment was found for him as a Technical Clerk in a substantial industrial concern. He has settled in well. His physical condition has not deteriorated and there is a vast improvement in his mental outlook.

C. A man aged 32, referred for after-care after treatment in a Mental Hospital as a Certified patient. A pre-frontal leucotomy had been performed in the hospital.

His main concern was employment, and in August he was placed as a Paint Sprayer, his wages averaging £6 10s. 0d. per week. His progress, reflected in his improved personal appearance and self-confidence, has been uninterrupted.

D. A male mental defective under the guardianship of a married sister. When referred for after-care a year ago he was aged 58 and had had no previous employment apart from assisting his mother in a small coal business. Light work as a labourer was obtained for him and he gave satisfactory service for over six months. It was then noticed that he was becoming restless and inclined to complain of ill-health, but he was encouraged to continue as it was felt that he was being influenced by over-solicitous relatives. Unfortunately he gave up his employment at the end of November. He has since asked for re-instatement and efforts are being made on his behalf.

It might be thought that the system operated by the Ministry of Labour and National Service should cover the employment of the mentally disabled but, without derogation of the work of the Ministry, with whom the closest contact is maintained, it must be said that the personal approach to employers and the intimate knowledge of the needs and capabilities of the people concerned, possessed by officers of the Mental Health Service, have led to many successful placings in cases where the Ministry have not been able to help.

There are many special problems involved. Often the patient coming out of hospital and the high-grade defective are unable to present themselves in a favourable light to a prospective employer. The patient may have reluctance to discuss his history when interviewed and when questioned becomes evasive and creates a poor impression; the defective lacks the means of expression and is thus unable to convince an employer of his ability. Again, the acceptance of unsuitable work is usually fatal to the chance of successful rehabilitation.

It is the previous approach of the social worker to the employer which can be instrumental in solving these problems and is, in fact, doing so with success. The officer is able to discuss the conditions of employment, smooth out Trade Union difficulties, ensure there is no exploitation and continue supervision during the whole course of employment.

The whole problem must, it is emphasized, be placed against the background of employment conditions in Liverpool, where unemployment among normal people is very much higher than in the country generally.

In expressing the opinion that this part of the service is well justified, it is justifiable to place on record appreciation of the public-spirited attitude of those employers who have been prepared to give a trial to and make allowances for persons whom they realise may not be always able to cope with their employment.

(b) Work undertaken under the Lunacy and Mental Treatments Acts.

Persons alleged to be mentally disordered reported to the
Department 909

Action taken:—

Admitted to Hospital (Section 20) (including 415 later certified under Sec. 16)...	561
Admitted to Hospital as voluntary patients	22
Admitted to Hospital Section 16	4
Admitted to Hospital Section 5	7
Admitted to Hospitals other than Mental Hospitals	52
Referred to Psychiatric Clinics	86
Referred to Prevention, Care and After-care Section	37
No further action indicated	140
Visits and Attendances	1,807

Increase in references.

There is a marked increase in the number of persons referred as being in need of treatment, the figure for the six months 5th July to 31st December, 1948, being 266, but it is doubtful whether this represents any real increase in mental illness; a substantial part of the increase in numbers must be attributed to the following factors:—

- (i) Owing to the shortage of accommodation for senile and senile dementia cases, medical practitioners are referring old people needing institutional care to the Mental Health Service;
- (ii) The fact that hospital and clinic treatment are now free is beginning to be reflected in the increased willingness of patients to accept treatment. It also has some bearing on the attitude of relatives, who are now less apt to care for certifiable patients at home. It is not suggested that this economic factor is the sole reason for the changed attitude—there are signs that the deeply-rooted view of mental disease as a “stigma” is slowly being replaced by a more healthy outlook, particularly among younger people. The education of public opinion referred to on the first page of this report is, however, very necessary if this improvement is to be extended.

Voluntary Patients.

As regards many voluntary admissions arranged by general practitioners and clinics, the Mental Health Service plays no part and has no records. Nevertheless, the small number of voluntary admissions actually arranged by the department may need some explanation. This is to be found largely in the shortage of vacancies at Mental Hospitals which has again presented serious difficulties for long periods during the year. It has caused the department to refer prospective voluntary patients to out-patient clinics and in many cases it is understood that they continue to receive clinic treatment in lieu of hospitalisation. The matter is largely one of hospital policy and accommodation but, so far as this department is concerned, the possibility of voluntary treatment is always considered.

(c) Under the Mental Deficiency Acts, 1913-38.

(i) Ascertainment.

Cases notified under Sec. 57 (3) Education Act	...	...	...	...	...	134
Cases notified under Sec. 57 (5) Education Act	...	...	...	...	...	73
Ascertained from other sources	...	...	...	...	...	20
Total						<u>227</u>

Action taken :--

Placed under Statutory Supervision	...	...	...	...	...	162
Placed under Guardianship	...	...	...	...	...	9
Admitted to M.D. Hospitals	...	...	...	...	...	28
Admitted to Places of Safety	...	...	...	...	...	6
Died or Removed from area	...	...	...	...	...	4
Awaiting decision at the end of the year	...	...	...	...	...	18

(ii) Institutional Care.

The acute shortage of institutional accommodation for mental defectives continued to exist and at the end of the year a conference on the subject between members of the Regional Hospital Board and the Health Committee was in process of being arranged. The number of cases awaiting admission was over 70 throughout the year and at 31st December it was 89.

In the latter part of the year a Central Bed Bureau for admissions was set up by the Liverpool Regional Hospital Board. Some difficulty arises from the fact that very large institutions which formerly served the needs of Liverpool are now within the area of the Manchester Regional Hospital Board.

(iii) *Guardianship and Supervision.*

The numbers of defectives under guardianship and supervision at 31st December were as follows:—

	Males	Females	Total
UNDER GUARDIANSHIP—			
Under 16	8	8	16
Over 16	23	54	77
UNDER STATUTORY SUPERVISION—			
Under 16	209	173	382
Over 16	794	596	1,390
UNDER VOLUNTARY SUPERVISION—			
Under 16	8	5	13
Over 16	31	33	64

During the year 2 defectives have married. Six children, all illegitimate, have been born to defectives.

On 1st July the National Assistance Board accepted financial responsibility for 61 defectives under guardianship over the age of 16, in respect of whom the Health Committee had previously been paying allowances.

On 31st December there were 16 defectives under the age of 16 for whom the Health Committee continued to pay guardianship allowances totalling £9 5s. 6d. per week. The Committee's policy is to make an allowance in such cases only if the defect is such as to result in abnormal expense to parents.

103 medical visits were paid to cases under guardianship.

A rearrangement of duties under which each Duly Authorised Officer and Visitor has been made responsible for the supervision of a set number of defectives has enabled closer supervision to be exercised than formerly.

Medical examinations of cases under statutory supervision included:—

Examinations of newly notified cases	...	...	...	...	...	22
Reassessments of mental ability	...	...	...	...	...	5
Visits re need for institutional care	...	...	...	...	...	21
Certificates in support of petitions	...	...	...	...	...	10

(d) Work performed on behalf of Children's Department and Police.

33 medical examinations of children in Remand Homes were carried out at the request of the Children's Officer. The object of these examinations is to ascertain the mental outlook and condition of delinquents with a view to assisting the Magistrates in their disposal of the cases.

In 6 cases evidence given in Court by the Assistant Medical Officer of Health after his examinations resulted in committal to a Mental Deficiency Hospital under Section 8 of the Mental Deficiency Act.

(iii) Training.

The Committee had constantly under review the possibility of opening new Occupational Centres. Negotiations for the purchase of a building at the north end of the city were not successful, but at the end of the year it appeared almost certain that two buildings formerly occupied by another Corporation Department would become available in 1950.

Meanwhile several innovations have been made at the Princes Road Centre as follows:—

Since the beginning of the Autumn term, two special 'buses have been in use to take children to and from their homes, a service which has been much appreciated by parents. Hot meals are now supplied to children through the School Meals Service. The supervisory staff has been increased. In June, 22 children proceeded on a week's holiday at Rhyl. This experiment was a great success and it is hoped to arrange for a larger party to be sent next year.

During the year the average daily attendance at the Centre rose from 60 to 80.

The usual Christmas parties were held. They are always much appreciated: the children look forward to them months ahead and find a happy outlet for their energies in preparing for them.

The amount of £33 was realised by the sale of articles made at the Centre.

Negotiations for the purchase of the Occupation Centre premises, 38, Princes Road, were in progress at the end of the year.

Transport.

Increased demands have had to be made on the City Ambulance Service and, whilst it has responded excellently, there have been occasions when delay has been unavoidable.

The use of private cars rather than ambulances is very desirable in the majority of cases, and it is hoped that in the near future it may be possible to allocate a car solely for Mental Health Service use.

TUBERCULOSIS.

Notification.

Public Health (Tuberculosis) Regulations, 1930.

SUMMARY OF NOTIFICATIONS DURING THE PERIOD 1ST JANUARY TO
31ST DECEMBER, 1949.

TABLE I.

Age-periods.	Notifications on Schedule A.													
	Number of Primary Notifications of New Cases of Tuberculosis.													
	0-	1-	2-	5-	10-	15-	20-	25-	35-	45-	55-	65-	75-	Total Primary Notifica- tions.
Respiratory-														
Males ...	2	9	23	22	20	89	86	154	143	154	122	57	6	887
Females ...	4	7	18	16	19	112	163	204	85	56	23	23	2	732
Non Respiratory-														
Males ...	4	4	15	13	19	13	7	12	10	3	—	1	1	102
Females ...	1	4	13	18	13	19	14	14	2	4	5	2	—	109

Out of a total of 1,619 primary notifications of respiratory tuberculosis 1,187 were received from private and 432 from hospital practitioners, whilst in the case of non-respiratory tuberculosis these figures are 47 and 164 respectively, forming a total of 211.

The Notification and Dispensary Registers.

In Table II is shown the number of cases on the notification and dispensary registers at the end of the year, the difference (1,257) between the figures for the respective registers representing the number of patients who, for various reasons, discontinued public treatment under this authority before reaching the “cured” stage. A few notified cases are also included in which the patients have refused to make use of the treatment facilities available.

TABLE II.

	Respiratory Tuberculosis.		Non-Respiratory Tuberculosis.		Totals.
	Males.	Females.	Males.	Females.	
Number of cases on the Notification Register ...	3,291	3,003	548	665	7,507
Number of established cases on the Dispensary Register	2,795	2,534	435	486	6,250
Difference	496	469	113	179	1,257

In Table III is given an analysis of the 1,257 persons whose names are on the notification register but are not on the dispensary register, according to the latest information concerning them.

TABLE III.

	Respiratory Tuberculosis.						Non-Respiratory Tuberculosis.						Totals.
	Males.			Females.			Males.			Females.			
	State of the Disease.						State of the Disease.						
	Arrested.	Quiescent.	Active.	Arrested.	Quiescent.	Active.	Arrested.	Quiescent.	Active.	Arrested.	Quiescent.	Active.	
Totals	5	137	354	7	140	322	8	39	66	13	79	87	1,257

Tuberculosis Clinics and Dispensary System.

A statistical summary of the work of the Tuberculosis Clinics, so far as all cases on the dispensary registers are concerned, is given in Table IV, and in addition there are included a few statistics of a general nature.

TABLE IV.

DIAGNOSIS.	RESPIRATORY			NON-RESPIRATORY			TOTAL			GRAND TOTAL.
	Adults.		Children	Adults.		Children	Adults.		Children.	
	M.	F.		M.	F.		M.	F.		
A.—NEW CASES examined during the year (excluding contacts):										
(a) Definitely tuberculous ...	682	552	123	44	63	102	726	615	227	1,568
(b) Non-tuberculous ...	—	—	—	—	—	—	236	156	439	831
B.—CONTACTS examined during the year :—										
(a) Definitely tuberculous ...	14	45	35	2	—	4	16	45	39	100
(b) Diagnosis not completed ...	—	—	—	—	—	—	18	29	82	129
(c) Non-tuberculous ...	—	—	—	—	—	—	90	189	693	974
C.—CASES written off the Dispensary Register as :—										
(a) Recovered ...	117	89	13	27	36	20	144	125	33	302
(b) Non-tuberculous (including any such cases previously diagnosed and entered on Dispensary Register as tuberculous) ...	—	—	—	—	—	—	326	345	1,134	1,805
D.—NUMBER OF CASES on Dispensary Register on Dec. 31st 1949 :—										
(a) Definitely tuberculous ...	2,576	2,315	438	248	298	375	2,824	2,613	813	6,250
(b) Diagnosis not completed ...	—	—	—	—	—	—	18	29	82	129
1. Number of cases on Dispensary Register on January 1st, 1949 ...			5,781	2. Number of cases transferred from other areas and cases returned after discharge under Heading 3 in previous years ...						526
3. Number of cases transferred to other areas, cases not desiring further assistance under the scheme, and cases "lost sight of" ...			728	4. Cases written off during the year as Dead (all causes) ...						595
5. Number of attendances at the Clinics (including Contacts) ...			13,475	6. Number of Persons under Domiciliary Treatment on the 31st December, 1949						1,892
7. Number of consultations with medical practitioners :—				8. Number of visits by Tuberculosis Officers to homes (including personal consultations) ...						1,426
(a) Personal ...			31							
(b) Other ...			3,066*							
9. Number of visits by Tuberculosis Visitors to homes of patients ...			21,521	10. Number of :—						
11. Number of "T.B. plus" cases on Dispensary Register on 31st December, 1949 ...			2,264	(a) Specimens of sputum etc., examined						2,749
				(b) X-ray examinations made in connection with Dispensary work ...						3,456

* In addition to 3,066 consultations, 3,130 reports concerning patients were sent to medical practitioners.

TABLE V.

PATIENTS UNDER DISPENSARY TREATMENT AT THE END OF THE YEAR.

	Respiratory	Non-respiratory.	Totals.
Males	5	—	5
Females	4	—	4
Male Children*	2	7	9
Female Children*	3	3	6
TOTALS	14	10	24

* Under 15 years of age.

TABLE VI.

PATIENTS NOT NEEDING TREATMENT WHO WERE UNDER DISPENSARY
SUPERVISION AT THE END OF THE YEAR.

	Respiratory	Non-respiratory	Totals
Males	1221	279	1500
Females	1033	224	1257
Male Children*	159	129	288
Female Children*	158	124	282
TOTALS	2571	756	3327

* Under 15 years of age.

Home Nursing.

The domiciliary nursing of both respiratory and non-respiratory cases continues to be carried out by the Liverpool Queen Victoria District Nursing Association. During the year, 138 respiratory and 27 non-respiratory cases were nursed in their homes, and to these cases 5,962 visits were paid.

General Remarks.

The National Health Service Act, 1946, having become operative as from July 5th, 1948, the Local Health Authority is now only concerned

with the prevention, care and after-care of tuberculosis cases, the Sanatoria, Tuberculosis Clinics and Hospitals having been transferred to the control of the Liverpool Regional Hospital Board.

The City death rates for the year 1949 for respiratory and non-respiratory tuberculosis are 0·68 and 0·08 per 1,000 respectively, making a total of 0·76 per 1,000 for all forms of the disease. An analysis of unnotified cases of tuberculosis is given in Table VIII.

In accordance with the requirements of the National Service (Armed Forces) Act, 1939, the Tuberculosis Officers have submitted 113 reports to the Ministry of Labour whilst a further 16 reports have been rendered under the Public Health (Tuberculosis) Regulations, 1940 (Men).

Ex-Service pensioners, about to undergo, or completing courses of residential treatment have been subject to 247 reports to the Ministry of Pensions, and 464 reports were rendered in respect of cases due to appear before Medical Boards.

MILK.—It was not found necessary during the year to take any action under the Public Health (Prevention of Tuberculosis) Regulations, 1925, or Public Health Act, 1936, Section 172.

CONTACTS. The Tuberculosis Officers have examined 1,072 persons who were known to have been in contact with infectious cases of respiratory tuberculosis and found evidence of disease in 100 or 9·32 per cent.

Tuberculosis Welfare.

With the advent of the National Insurance Act, 1946, the work hitherto performed by this Department in relation to the assessment and allocation of allowances under Memorandum 266T. has been taken over by the National Assistance Board.

During the year 1949, 748 cases have been the subject of reports to the National Assistance Board with a view to determining their eligibility for the special rates applicable to cases of tuberculosis.

Liaison is maintained with the Ministry of Labour with a view to assisting in the rehabilitation of suitable cases.

REHABILITATION.

Summary of cases dealt with during the year 1949:—

Total cases referred by Ministry of Labour to Tuberculosis								
Officers	...	...	...	...	...	...	...	289
(a)	Examined and found fit for light, part-time or full-time employment							225
(b)	Not fit for employment							30
(c)	Failed to attend for examination							17
(d)	Certified as non-tuberculous							17
Letters sent by Tuberculosis Welfare Section to patients offering advice and assistance to obtain suitable employment								23
Number availing themselves of this assistance and referred to Ministry of Labour								5
Actual number of patients reported by Ministry of Labour as placed in employment								56
Total number of cases dealt with under Rehabilitation Scheme by Tuberculosis Welfare Section								312

TABLE VII.

PATIENTS UNDER DOMICILIARY TREATMENT AT THE END OF THE YEAR.

	Respiratory	Non-respiratory	Totals.
Males	877	35	912
Females	874	44	918
Male Children*	24	4	28
Female Children*	24	10	34
TOTALS	1799	93	1892

* Under 15 years of age.

Co-operation.

During the year, 1,649 reports were rendered by the Tuberculosis Officers in respect of school children. Many cases have also been examined at the request of organisations such as the Liverpool Personal Service Society; Child Welfare Association; Maternity and Child Welfare Department, etc.

Notification and Deaths.

During the year, 53 persons within the city died from tuberculosis without notification having been effected prior to death. The result of enquiry into the reasons for such failure to notify are summarised in Table VIII.

TABLE VIII.

DISEASE.	Reasons for non-notification of persons who died within the City.						
	No. of persons who died within the City.	No. of cases not notified before death.	Diagnosis made at a post-mortem examination. (Includes Coroner's Cases.)	Diagnosis delayed owing to clinical difficulties.	Doctor thought case had been notified by another Practitioner.	Notification forgotten.	Patient died before notification could be effected.
Respiratory Tuberculosis	542	39 7.19%	16 2.95%	8 1.47%	4 0.74%	4 0.74%	7 1.29%
Non-Respiratory Tuberculosis ...	68	14 20.58%	13 11.76%	5 7.35%	1 1.47%	— —	— —

Deaths from Tuberculosis.

The number of deaths from respiratory and non-respiratory tuberculosis in Liverpool from 1934 to 1949, together with the number of new cases notified and the death rates which prevailed in England and Wales are given in Tables IX and X where case rates for Liverpool are shown.

TABLE IX.

DEATHS FROM RESPIRATORY TUBERCULOSIS.

Years.			Cases notified.	Case rate per 1,000 population.	Number of deaths.	Death rate per 1,000 Liverpool.	Death rate per 1,000 England and Wales.
1934	...	...	1,903	2.20	867	1.03	0.63
1935	...	...	1,697	1.96	812	0.97	0.60
1936	...	...	1,645	1.90	713	0.85	0.58
1937	...	...	1,555	1.79	684	0.82	0.58
1938	...	...	1,378	1.59	666	0.81	0.53
1939	...	...	1,213	1.47	647	0.81	0.54
1940	...	...	1,311	1.73	761	1.01	0.59
1941	...	...	1,302	1.90	699	1.02	0.60
1942	...	...	1,370	2.04	653	0.97	0.54
1943	...	...	1,479	2.23	670	1.01	0.56
1944	...	...	1,441	2.16	597	0.90	0.52
1945	...	...	1,455	2.13	605	0.88	0.52
1946	...	...	1,478	2.01	579	0.79	0.46
1947	...	...	1,479	1.96	599	0.79	0.47
1948	...	...	1,618	2.04	630	0.79	0.44
1949	...	...	1,619	2.02	542	0.68	0.40

TABLE X.

DEATHS FROM NON-RESPIRATORY TUBERCULOSIS.

Years.	Cases notified.	Case rate per 1,000 population.	Number of deaths.	Death rate per 1,000 Liverpool.	Death rate per 1,000 England and Wales.
1934	585	0.67	129	0.15	0.13
1935	502	0.58	123	0.15	0.11
1936	445	0.51	126	0.15	0.11
1937	388	0.45	112	0.13	0.11
1938	386	0.45	103	0.12	0.10
1939	317	0.38	99	0.12	0.09
1940	274	0.36	122	0.16	0.11
1941	305	0.44	147	0.21	0.13
1942	348	0.52	124	0.18	0.11
1943	335	0.51	103	0.15	0.11
1944	250	0.37	82	0.12	0.10
1945	248	0.36	96	0.14	0.10
1946	237	0.32	79	0.10	0.08
1947	234	0.31	85	0.11	0.09
1948	228	0.29	85	0.11	0.07
1949	211	0.26	68	0.08	0.05

TABLE XI.

AGE PERIODS OF DEATHS FROM TUBERCULOSIS DURING 1949.

Age Periods.	RESPIRATORY		NON-RESPIRATORY	
	Males.	Females.	Males.	Females.
0—	—	1	4	—
1—	1	1	10	8
5—	1	—	1	5
10—	1	2	5	2
15—	5	15	4	5
20—	27	40	1	4
25—	41	71	4	5
35—	61	33	1	—
45—	74	26	3	1
55—	74	15	3	1
65—	44	9	1	—
TOTALS	329	213	37	31

TABLE XII.

DEATHS FROM TUBERCULOUS MENINGITIS.

	Ages Below									Above	Total		Total Both Sexes.
	1	2	3	4	5	10	15	20	25	25	M.	F.	
015	33	28	13	9	10	23	10	8	4	3	81	50	141
016	30	31	17	14	13	21	17	5	2	10	89	71	160
017	18	19	16	11	11	32	16	12	2	11	78	70	148
018	16	18	15	10	12	27	12	12	1	10	69	64	133
019	18	10	12	8	6	25	9	1	1	5	49	46	95
020	14	7	14	6	9	21	11	7	3	7	44	55	99
021	22	33	14	3	5	15	12	8	5	6	67	56	123
022	14	19	12	6	2	19	5	11	2	8	58	40	98
023	12	23	10	13	4	18	5	7	2	4	44	54	98
024	14	13	10	7	6	12	10	4	6	7	44	45	89
025	10	10	11	9	10	16	7	7	7	4	51	40	91
026	15	10	14	8	5	16	7	6	2	5	42	46	88
027	13	15	6	9	5	17	5	7	—	7	46	38	84
028	7	16	12	5	4	11	7	5	5	6	45	33	78
029	18	14	11	7	3	20	9	10	1	6	45	54	99
030	13	13	13	10	5	19	4	5	3	3	43	45	88
031	11	9	12	9	8	13	8	6	1	4	37	44	81
032	13	8	6	6	6	10	7	8	4	4	35	37	72
033	8	7	3	7	5	11	7	5	3	5	29	32	61
034	8	8	6	8	2	8	7	7	3	5	23	39	62
035	3	10	4	8	6	5	3	7	3	5	34	20	54
036	8	9	6	6	4	7	7	3	3	2	32	23	55
037	6	8	2	6	2	8	6	6	2	5	26	25	51
038	6	9	8	8	2	5	—	5	1	4	25	23	48
039	11	8	4	2	—	9	7	3	—	3	25	22	47
040	10	10	4	3	2	8	6	10	3	3	24	35	59
041	9	12	11	9	5	16	6	10	5	2	44	41	85
042	10	11	11	3	2	7	8	8	2	5	34	33	67
043	5	5	4	3	4	7	5	7	2	2	26	18	44
044	3	12	3	4	3	1	4	1	1	4	19	17	36
045	4	7	5	5	5	12	6	6	1	2	27	26	53
046	2	5	2	3	1	9	4	2	1	2	12	19	31
047	3	5	1	5	—	6	4	2	1	3	13	17	30
048	2	9	5	4	2	9	2	6	3	7	28	21	49
049	3	4	4	1	2	3	2	4	4	7	17	17	34

VENEREAL DISEASES WELFARE.

On July 5th, 1948, under the National Health Service Act, 1946, the treatment of venereal diseases became the responsibility of the Liverpool Regional Hospital Board and the Board of Governors of the United Liverpool Hospitals, but the welfare work associated with these diseases continues in the hands of the local health authority.

Two male and two female clinics which are open for most of the day continue to function as do the hospital wards for in-patients. Laurel House, a diocesan institution for the moral rehabilitation of young girls, receives financial support from the local health authority.

From the subjoined table it will be seen that since 1946 there has been a welcome decline in the incidence of early infections amounting overall to more than 60 per cent., and that the number of infections in women has fallen most rapidly.

ACUTE GONORRHOEA.

	1946	1947	1948	1949
Males	3,112	2,575	1,933	1,441
Females	422	272	174	159

EARLY SYPHILIS.

	1946	1947	1948	1949
Males	655	481	370	219
Females	331	248	155	85

The staff of the V.D. Welfare Section consists of a senior male welfare visitor, a male welfare visitor and a female welfare visitor. In addition, the services of the welfare visitor attached to the Royal Infirmary V.D. Clinic are available to deal with female defaulters from that clinic.

The work entails the interviewing of patients, the tracing of contacts and persuading them to attend for examination, writing and visiting defaulters from treatment and assisting patients to attend in the light of the knowledge of the circumstances of the individual patient. Close co-operation with the medical officers of the various treatment centres is maintained. In addition, patients referred to clinics by hospitals for investigation or treatment having failed to report, are followed-up, in most cases, successfully.

CONTACT TRACING.

In accordance with the recommendation contained in Ministry of Health Circular 5/48, the practice of following-up contact cases notified from all areas has produced the following results:—

TABLE A.

	Male	Female	Total
No. of notifications received	3	66	69
No. of cases traced and interviewed	2	32	34
No. of cases not yet interviewed	1	3	4
No. of cases who reported for investigation	1	27	28
*No. of cases in which information was passed on to other Authorities	—	2	2
No. of cases already in the Register of a Liverpool Clinic ...	—	6	6
No. of cases untraced, due mainly to insufficient information...	—	31	31

* Each case was investigated with negative results.

The issue of “contact slips” to patients for the use of their potentially infected partners has brought under observation 94 males and 165 females. From no other single source has a greater number of female patients come for examination.

FOLLOW-UP OF DEFAULTERS.

The following Tables B and C indicate respectively the response of defaulting patients to letters or to home visiting:—

TABLE B.

	Male	Female	Con- genital	Total
No. of cases written to	1,174	1,172	9	2,355
No. of letters despatched	1,257	1,854	14	3,125
No. of cases reporting after receipt of letter... ..	576	731	7	1,314
No. of letters returned—Dead Letter Office	152	65	—	217

TABLE C.

	Male	Female	Con- genital	Total
No. of cases visited	697	666	36	1,399
No. of visits made	1,376	2,321	180	3,877
No. of cases attending following visits	237	374	30	641
No. of cases promising to attend but failing to do so	55	48	5	108
No. of cases removed, or not known at address given	271	165	—	436
No. of cases not contacted, no access, away from home, etc.	109	62	1	172
No. of cases who refused to re-attend	25	6	—	31
No. of cases removed to other districts, and trans. for follow-up	—	8	—	8

INSPECTION OF FOOD.

TABLE I.

NUMBER OF VISITS PAID TO PREMISES BY FOOD INSPECTORS.

Slaughter-houses.	Butchers' shops.	Fruit shops.	Fish and Fruit shops.	Food Hawkers' premises.	Jam factories.	Pickle factories.	Ice Cream premises.	Food factories.	Knackers' yards.	Total visits.
—	9,972	9,728	12,847	910	20	9	2,483	631	6	36,197

Private Slaughter-houses.

There are 4 private slaughter-houses in the city at which, during the year, no animals were slaughtered.

The City Abattoir.

296,786 animals were slaughtered for human food, details of which are given in the following table :—

TABLE II.

NUMBER OF ANIMALS SLAUGHTERED IN LIVERPOOL FOR HUMAN FOOD.

	Bulls.	Bullocks.	Cows.	Heifers.	Calves.	Sheep and Lambs.	Swine.	Horses.	Goats.
City Abattoir	665	20,881	22,781	7,264	55,300	185,601	3,215	1,026	53
TOTALS ...	665	20,881	22,781	7,264	55,300	185,601	3,215	1,026	53

TABLE III.

CARCASES OF ANIMALS (HOME-KILLED) BROUGHT INTO THE CITY MEAT MARKET
FROM OTHER DISTRICTS.

Beef.	Veal.	Mutton.	Lamb.	Pork.
5,750	1,401	228	1,814	4,857

In addition to the above, 2,039 boxes or packages of home-killed offal were dealt with in the meat market.

TABLE IV.

CARCASES OF IMPORTED (FROZEN AND CHILLED) MEAT DEALT WITH AT THE
CITY MEAT MARKET.

Beef.	Veal.	Mutton.	Lamb.	Pork.	Goats.
15,633	595	96,026	331,179	1,726	—

In addition to the above, 100,502 boxes and packages of imported meat and offal were dealt with in the meat market.

The following amounts of imported meat and offal were destroyed for unsoundness, such as bone taint, mould, brine damage and decomposition:—Beef 22,719 lb., Mutton 334 lb., Veal 82 lb., Pork 118 lb., Beef Offal 21,232 lb., Mutton Offal 10 lb., Veal Offal 216 lb., Pork Offal 8,062 lb.

Diseased Conditions.

The carcasses of 71,426 animals showed abnormal conditions, and a detailed examination was made in each case, 2,279 carcasses being rejected as unfit for human food. Of these, 1,878 were destroyed at the abattoir and 401 were destroyed at knacker's yards. A description of the diseased conditions found during 1949 which led to the total or partial destruction of carcasses is given in Table V.

TABLE V.

Disease.	No.	Disease.	No.
Abscess (total)	1	Melanosis (total)	1
„ (partial)	192	„ (partial)	7
Arthritis, Septic (total)	11	Metritis (partial)	3
„ Simple (partial)	75	Moribund	7
Asphyxia	254	Nephritis Septic (total)	15
Cysticercus Bovis (partial)	9	Nephritis (partial)	15
Contamination (partial)	22	Pyæmia	11
Distomatosis	72	Peritonitis Septic	14
Dropsy (total)	213	Peritonitis (partial)	22
„ (partial)	4	Pneumonia	2
Enteritis	188	„ (partial)	2
Immaturity	13	Pleurisy	6
Injury (total)	9	Pleurisy (partial)	17
„ (partial)	214	Presternal Calcification (partial)	8
Jaundice	101	Septicæmia	15
Johnes Disease	19	Septic Mastitis	1
„ (partial)	3	„ Metritis	7
Joint Ill	33	„ Pericarditis	5
Leukaemia	2	Swine Erysipelas	2
Lymphadenoma (total)	1	Tuberculosis (total)	861
Malignant Neoplasms	10	„ (partial)	1,350
		Urticaria (partial)	4

In addition to the carcasses totally destroyed because diseased conditions made them unfit for human food, a number of organs with localised disease were condemned.

TABLE VI.
QUANTITIES OF FOOD MATERIALS CONDEMNED AS BEING UNFIT FOR HUMAN FOOD.

Beef, Veal, Mutton, Pork.	Offal.	Fish.		Crabs, Lobsters, Oysters, Crayfish, Shrimps, Prawns, Scallops.	Cockles, Mussels, and Winkles.	Poultry.	Game.	Rabbits, and Hares.	Fruit.	Vegetables.	Nuts, Coconuts, Almonds, etc.	Sundries.	Canned Food- stuffs.	Dried Fruit.	
		Wet.	Dry.			Fowls, Ducks, Geese, Turkeys, etc.	Partridges, Grouse, etc.		Apples, Pears, Bananas, Oranges, Lemons, etc.	Potatoes, Cabbages, Sprouts, Onions, Turnips, etc.					
Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Bags.	Head.	Head.	Head.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.
704,430	1,233,182	347,285	68,518	9,993	234	6,039	63	1,840	310,445	345,828	33,622	93,148	113,399	3,200	

TABLE VII.

CARCASSES INSPECTED AND CONDEMNED.

	Cattle excluding Cows.	Cows.	Calves.	Sheep and Lambs.	Pigs.	Goats.	Horses.
Number killed (if known)	28,810	22,781	55,300	185,601	3,215	53	1,026
Number inspected	28,810	22,781	55,300	185,601	3,215	53	1,026
All Diseases except Tuberculosis.							
Whole carcasses condemned	14	189	527	255	23	3	6
Carcasses of which some part was condemned	124	206	11	126	131	—	—
Carcasses of which some organ was condemned	15,477	13,182	25	32,383	195	—	8
Percentage of the number inspected affected with disease other than tuberculosis	54·20%	59·60%	1·02%	17·65%	10·85%	5·66%	1·36%
Tuberculosis only.							
Whole carcasses condemned	32	781	26	1	21	—	—
Carcasses of which some part was condemned	241	1'085	—	—	24	—	—
Carcasses of which some organ was condemned	1,519	4,461	3	—	347	—	—
Percentage of the number inspected affected with tuberculosis ...	6·22%	27·77%	0·05%	—	12·19%	—	—

**The Tuberculosis Order, 1938, and Tuberculosis (Amendment)
Order, 1946.**

These Orders aim at the elimination of cows suffering from tuberculosis which may be a source of infection to human beings and to other animals. During 1949, 32 cows were slaughtered under these Orders at the City Abattoir.

Slaughter of Animals Act, 1933.

Applications for licences as slaughtermen were received as follows:—
3 new licences, 3 renewals of existing licences, and 199 temporary licences

for the slaughter of animals for the food of Mohammedans. In each case the licence was granted.

Salvage of Foodstuffs.

In addition to the ordinary examination and classification of foodstuffs submitted for inspection, many requests have been received from the Ministry of Food to examine varied consignments of doubtful foodstuffs, a report being issued to the Ministry on each consignment. For this purpose each consignment is on examination divided and classified as follows:—

- (a) Fit for retail trade.
- (b) Made fit for human food by reconditioning, and used for catering or manufacturing purposes.
- (c) Made fit for animal feeding by reconditioning.
- (d) Suitable for industrial purposes only.

Cases of Food Poisoning Investigated.

1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	TOTAL
—	11	294	18	323

OUTBREAKS DUE TO IDENTIFIED AGENTS.	Total Outbreaks	Total Cases
Outbreaks due to :—		
(a) Chemical Poisons	1	250
(b) Salmonella Organisms	1	4
(c) Staphylococci (including toxin) ...	2	18
(d) Cl. botulinum	—	—
(e) Other bacteria	—	—
TOTALS	4	272

OUTBREAKS OF UNDISCOVERED CAUSE ...	5	13
-------------------------------------	---	----

SINGLE CASES.

Agents Identified	Unknown Cause	Total
23	15	38

Details of Food Poisoning Outbreaks.

OUTBREAK A.

- FOOD CAUSING OUTBREAK : Pressed Beef.
AGENT CAUSING OUTBREAK : Staph. Aureus.
- CASES FORMING OUTBREAK which occurred from 29/8/1949 to 3/9/1949 :
Total notified : 13
Total ascertained : 13
Fatal : Nil
- CLINICAL FEATURES :
Main symptoms : Diarrhoea, vomiting and stomach pains.
Severity of illness : Moderate.
Duration of illness : 2 to 3 days.
- RESULTS OF INVESTIGATION :
Specimens were submitted as follows :—
(1) Faeces from 10 persons affected.

- (2) *Food samples*—3 samples of unconsumed beef collected from residence and $\frac{1}{2}$ lb. sample from shop.
- (3) *Food handler*—2 swabs taken from small septic cut on right little finger.

In all specimens pathogenic *Staph. Aureus* were present.

5. ORIGIN AND PREPARATION OF FOOD CAUSING ILLNESS :

Shopkeeper had a small septic cut on finger and in the process of pressing the cooked meat in the moulds had contaminated same.

6. PLACE AT WHICH FOOD CAUSING ILLNESS WAS CONSUMED : Home.

7. PROBABLE ORIGIN OF INFECTION OR CONTAMINATION OF FOOD :

See above.

OUTBREAK B.

1. FOOD CAUSING OUTBREAK : Fruit salad.

AGENT CAUSING OUTBREAK : Zinc poisoning.

2. CASES FORMING OUTBREAK, which occurred on 8/9/1949 :

Total notified : 250

Total ascertained : 250

Fatal : Nil

3. CLINICAL FEATURES :

Main symptoms : Diarrhoea, vomiting and stomach pains.

Severity of illness : Moderate.

Duration of illness : Hours.

4. RESULTS OF LABORATORY INVESTIGATION :

The specimens of food waste and vomit submitted contained zinc in the following proportions :—

	Parts per million.	Grains/lb.
Food Waste (1)	130	0.9
Food Waste (2)	260	1.8
Vomit (1)	500	3.5
Vomit (2)	130	0.9

5. ORIGIN AND PREPARATION OF FOOD CAUSING ILLNESS :

The fruit salad of fresh plums and apples was stewed in aluminium pans and then placed in a large galvanized bath. It was not served until 20 hours later.

6. PLACE AT WHICH FOOD CAUSING ILLNESS WAS CONSUMED : School.

7. PROBABLE ORIGIN OF INFECTION OR CONTAMINATION OF FOOD :

See above.

OUTBREAK C.

1. FOOD CAUSING OUTBREAK: Meal consisting of boiled cod, boiled potatoes, milk pudding and raw apples.
AGENT CAUSING OUTBREAK: Staph. Aureus.
2. CASES FORMING OUTBREAK, which occurred on 30/9/1949 :
Total notified: 5
Total ascertained: 5
Fatal: Nil
3. CLINICAL FEATURES :
Main symptoms: Diarrhœa, vomiting and stomach pains.
Severity of illness: Moderate.
Duration of illness: Hours.
4. RESULTS OF LABORATORY INVESTIGATION :
The unconsumed food and plate scrapings had been removed prior to the time of visit.
Specimen of vomit collected showed pathogenic *Staph. Aureus* present.
5. ORIGIN AND PREPARATION OF FOOD CAUSING ILLNESS :
The meal was cooked at a Corporation Cooking Centre. Five girls in the same class complained of feeling sick and vomited two hours after the meal. 360 other meals were served to the school from the same centre at the same time without complaint.
6. PLACE AT WHICH FOOD CAUSING ILLNESS WAS CONSUMED: School.
7. PROBABLE ORIGIN OF INFECTION OR CONTAMINATION OF FOOD :
See above.

OUTBREAK D.

1. FOOD CAUSING OUTBREAK: Rabbit.
AGENT CAUSING OUTBREAK: Salmonella typhi-murium.
2. CASES FORMING OUTBREAK, which occurred on 12/5/1949 :
Total notified 4
Total ascertained: 4
Fatal: Nil
3. CLINICAL FEATURES :
Main symptoms: Diarrhœa, vomiting and stomach pains.
Severity of illness: Moderate.
Duration of illness: 3 to 4 days.

4. RESULTS OF LABORATORY INVESTIGATION :

Faeces from patients, together with a portion of rabbit and chipped potatoes, sent to City Laboratories. In each case organisms of the salmonella typhi-murium groups were isolated.

5. ORIGIN AND PREPARATION OF FOOD CAUSING ILLNESS :

Rabbit cooked at home.

6. PLACE AT WHICH FOOD CAUSING ILLNESS WAS CONSUMED : Home.

7. PROBABLE ORIGIN OF INFECTION OR CONTAMINATION OF FOOD :

See above.

Clean Food Campaign.

CLASSES OR LECTURES FOR FOOD TRADERS OR THEIR EMPLOYEES.

Each year a number of meat trade and food factory principals and employees enrol in the Meat and Food Class to further their knowledge of the food industry. It is the practice to keep, as far as is possible, these men together and to impress upon them the necessity of the clean handling of food and the effects of dirty refrigerators, dirty personal habits, dirty premises and equipment. Special stress is made of the essential cleanliness of plant, more particularly sausage machines, and of the need of prevention of contamination of foodstuffs used in prepared foods, such as sausage, brawn, pressed meat and meat mixture concoctions.

ICE CREAM.

At special meetings of the Ice Cream Alliance, lectures and talks have been given by the Deputy Medical Officer of Health and the Chief Food Inspector.

Every opportunity is taken in markets, food shops, food factories or food distribution premises of impressing employers and employees of the importance of clean handling of food. This fact is more particularly emphasised when a complaint has been received concerning the particular person, place or commodity.

Special steps are taken when a manufacturer of ice cream has had a sample graded 3 or 4 (see page 95). It is the practice of this department to go through the whole process of the manufacture, including the handling by employees, to find cause why the ice cream has had such a bad grading.

OTHER RELEVANT ACTIVITIES.

Broadgreen Hospital (Student Nurses). As occasion arises, generally four or five times per annum, the student nurses receive a two-hour lecture on elementary food hygiene. This lecture embraces meat, cereals and canned foods. Food spoilage by acari and flies, and the danger of staphylococci, are mentioned, and the desirability of excluding dogs from slaughterhouses and food premises is emphasised. Throughout the lecture, specimens are shown of every food mentioned in their normal and abnormal state.

Staff and Students at Calder College of Domestic Science. A series of six or eight lectures are given each school year at the above college. The lectures are more advanced but similar to those given to Broadgreen Student Nurses, reference being made to the hygienic handling of foodstuffs in the places, works and office canteens, restaurants, schools, etc., where these students will become teachers or supervisors.

Education Committee Supervisors of School Meals Centres, and British Restaurant Centres. In the spring of this year, parties of supervisors and the senior members of the above staffs were given a lecture on meat and other foodstuffs. At each lecture, hygienic handling of foodstuffs was mentioned, especial emphasis being given to food contamination.

Food poisoning Enquiries. Whenever these enquiries are made, it is customary to emphasise the necessity of clean personal habits, the dangers of contaminating foods, and the urgency of treating minor cuts or pimples.

THE CLEANLINESS OF MILK.

During the year, the standard of cleanliness of milk has been very satisfactory. Regular routine samples were taken from the herds of producers within the City, and also from the milk brought into Liverpool daily by road and rail from the County areas of Lancashire, Cheshire, Denbighshire and Shropshire.

By the operation of the Milk and Dairies Act, 1944, which came into force on October 1st, 1949, together with the Milk (Special Designations) Act, 1949, new Regulations in regard to milk and dairies; registration of milk dealers and producers; designated raw milk; as well as sterilised and pasteurised milk, have also become operative.

The major change is that a Local Authority is no longer responsible for the production control of raw milk or the conditions of cowsheds where this milk is produced. This function will be carried on by the Ministry of Agriculture and Fisheries as from October 1st, 1949.

Whether this change will result in cleaner milk or more satisfactory conditions in regard to cowsheds remains to be seen.

The supervision of dairies (apart from farms or producers' premises) still remains the duty of local authorities, which also retain control of pasteurisation plants and the licensing in connection therewith.

The total number of milk samples submitted to the City Bacteriologist for examination was 2,507, comprised as follows:—240 Tuberculin-tested milks; 639 Accredited milks; 304 Ungraded milks; and 1,324 heat-treated milks.

The Tuberculin-tested, Accredited, and ungraded milk were examined for the presence or absence of coliform bacilli; the methylene blue reduction test, and subjected to guinea pig inoculation for the detection of tubercle bacilli. Heat-treated milk was tested by the phosphatase, methylene blue, or turbidity tests. The detailed results of bacteriological examinations of milk are given in Tables VIII-XIII.

TABLE VIII.
EXAMINATION OF SAMPLES OF TUBERCULIN TESTED MILK.

Supplied by	Number of Samples	Where taken	METHYLENE BLUE REDUCTION TEST.		PRESENCE OR ABSENCE OF COLIFORM BACILLI.	
			Satisfactory.	Unsatisfactory.	Absent in $\frac{1}{100}$ ml.	Present in $\frac{1}{100}$ ml. *
A	27	Hospitals (Milk Produced outside City).	26	1	20	3
B	10	"	8	2	7	1
C	11	"	9	2	4	5
D	14	"	13	1	8	3
E	7	"	4	3	2	5
F	12	(Produced in City)	12	0	10	0
G	12	"	5	7	10	1
H	12	"	12	0	16	0
I	12	"	11	1	7	3
J	4	"	4	0	2	0
Various	119	Wholesale Depots (Country Milk)	92	27	77	34
TOTALS	240		196	44	157	55
			81.6%	18.4%	74.1%	25.9%

* NOTE.—Under the provisions of the new regulations in regard to designated new milks, the B. Coliform standard (to be absent $\frac{1}{100}$ ml.) is no longer in force. This examination was discontinued after 30th September, 1949.

TABLE IX
THE EXAMINATION OF ACCREDITED MILK PRODUCED IN LIVERPOOL.

Total Number of Samples.	METHYLENE BLUE TEST.		PRESENCE OR ABSENCE OF COLIFORM BACILLI. *	
			Absent in	Present in
	Satisfactory.	Unsatisfactory.	$\frac{1}{100}$ ml.	$\frac{1}{100}$ ml.
639	574	65	431	104
	89.8%	10.2%	80.6%	19.4%

* See note to Table VIII.

It is interesting to note that the Accredited milk produced in city cow-sheds, which were subject to supervision by the Health Department, was cleaner than Tuberculin-tested milk produced by herds in areas outside the City.

TABLE X

EXAMINATION OF SAMPLES OF UNGRADED AND UNTREATED MILK
PRODUCED IN LIVERPOOL.

Month.	Number of Samples	METHYLENE BLUE REDUCTION TEST.		PRESENCE OR ABSENCE OF COLIFORM BACILLI.	
		Satis- factory.	Unsatis- factory.	Absent in $\frac{1}{100}$ ml.	Present in $\frac{1}{100}$ ml. *
January ...	28	28	0	20	8
February ...	28	26	2	23	5
March ...	27	27	0	22	5
April ...	27	24	3	23	4
May ...	27	25	2	22	5
June ...	26	18	8	11	15
July ...	27	18	9	11	16
August ...	24	15	9	8	16
September ...	24	14	10	11	13
October ...	23	18	5		
November ...	22	17	5		
December ...	21	18	3	*	
TOTAL ...	304	248	56	151	87
		81.6%	18.4%	63.5%	36.5%

* See note to Table VIII.

TABLE XI.

EXAMINATION OF HEAT TREATED MILK FROM PLANTS IN THE CITY.

Class of Milk.	Number Tested.	Appropriate Test.	Number of Samples.	
			Passed.	Failed.
Pasteurised... ..	764	Phosphatase ... Methylene Blue	763 764	1 —
Heat Treated	139	Phosphatase ... Methylene Blue	137 127	2 12
Sterilised	152	Phosphatase ... Methylene Blue Turbidity ...	117 117 35	— — —
Tuberculin Tested (Pasteurised)...	269	Phosphatase ... Methylene Blue	268 268	1 1
TOTAL	1,324	Phosphatase ... Methylene Blue Turbidity ...	1,285 1,276 35	4 13 —

Since February, 1948, by the operation of the Public Health Laboratory Service under the Ministry of Health, the examination of heat-treated milk for the purpose of testing the efficiency of the heat treatment by means of the phosphatase test, and for keeping quality by the methylene blue reduction test, has been carried out by the City Bacteriologist.

On October 1st, 1949, the Milk (Special Designation) (Pasteurised and Sterilised Milk) Regulations became operative. These regulations re-enact with amendments the previous legislation and provide for a new designation of heat-treated milk—sterilised milk—which must now comply with a specified test.

Sterilised milk must be filtered, homogenised and heated to and maintained at such a temperature, not less than 212° F., for such a period as to ensure that it will comply with the turbidity test specified in the regulations.

35 samples of sterilised milk were tested and all samples were reported as satisfactory.

The total number of 1,324 samples of heat-treated milk submitted included 33 samples which were taken at the dock-side on arrival from Northern Ireland. One of these samples was insufficiently heat-treated and twelve failed to satisfy the methylene blue test. Appropriate action was taken.

The efficiency of heat-treatment plants in the City (which are amongst the most up-to-date in the country) has been maintained at a high level and reflects credit on the firms concerned, who have co-operated with the Health Department by accepting suggestions and criticisms, in achieving most satisfactory results.

TUBERCULOUS MILK.

The Examination for Tuberculosis, of Milk produced within the City.

TABLE XII.

Kind of Milk.	Number of samples.	Tubercle bacilli present.	Percentage tuberculous.
Graded milk 	698	14	2%
Ungraded raw milk 	275	8	2·9%

The Examination for Tuberculosis, of Milk produced in Areas outside the City.

TABLE XIII.

Kind of Milk.	Number of samples.	Tubercle bacilli present.	Percentage tuberculous.
Graded milk 	174	—	—

The comparatively small amount of ungraded raw milk coming into the City from outside areas is pasteurised or sterilised before sale, and for this reason samples have not been submitted for guinea pig inoculation

Milk for School Children.

Pasteurised milk only is supplied to school children under the Milk Marketing Board's Scheme. During the year some 113,541 children were each supplied with a third of a pint daily. This number is approximately 95 per cent. of the children attending school. During the year, 123 samples were examined bacteriologically and chemically, and the results as a whole were highly satisfactory. All samples satisfied the methylene blue and phosphatase tests and none was found to be tuberculous.

Routine milk samples taken at Day Nurseries, the Central Kitchen, and School Canteen Kitchens have proved satisfactory.

Milk Supply to Hospitals and Welfare Homes.

The milk supplied to the hospitals and welfare homes in the City by various contractors is regularly sampled at the time of arrival, and submitted for chemical analysis and bacteriological examination. The results of these tests during the year have been very satisfactory.

THE ADULTERATION OF FOOD AND DRUGS.

The importance of a pure food supply cannot be over-estimated especially in view of the limited amount of rationed commodities available, and, therefore, low quality or adulterated foods cannot be tolerated.

The Medical Officer of Health is, of course, responsible for ensuring that the foodstuffs offered for sale for human consumption in his area are pure and wholesome. This entails the constant vigilance of the Food and Drugs Inspectors who purchase samples of foodstuffs of every description, and after analysis by the Public Analyst (whose duty is to test for adulteration), appropriate action is taken. In some cases, legal proceedings are instituted; in others, advice is given to the vendor—particularly in regard to milk which proves to be of abnormal composition although genuine—and in other instances the packer or manufacturer is advised of the irregularity or technical offence. The laying of informations, service of summonses and the preparation of evidence is carried out by the Food and Drug Staff.

It is satisfactory to note that during the year 1949, out of a total number of 7,100 samples taken or purchased, only 3·9 per cent. were found to be not genuine or otherwise giving rise to irregularity. This comparatively low figure is a tribute to food suppliers and shopkeepers as well as to constant inspection and sampling.

Of the total number of 7,100 samples detailed in Table XV, 1,936 were formal and 5,164 informal. An “informal” sample is one purchased without intimation to the vendor that it is to be analysed. Valuable information as to irregularities is obtained in this way. Prosecution for adulteration cannot be undertaken, however, until a “formal” sample has been taken subsequently, in accordance with the procedure described in the Food and Drugs Act, 1938. 145 formal samples and 129 informal samples were reported as not being genuine or otherwise giving rise to irregularity. Legal proceedings were instituted in 54 cases where formal samples were found not to be genuine and, in the remaining instances, appropriate action was taken. The results are summarised in Table XVI.

TABLE XV.

SUMMARY OF SAMPLES TAKEN OR PURCHASED DURING THE YEAR 1949 UNDER
THE FOOD AND DRUGS ACT, 1938.

Nature of Sample.	Number of Samples.		Samples found not to be genuine or otherwise giving rise to irregularity.		Manu- facturers or Vendors cau- tioned.	Prosecu- tions.	Remarks on Sample where Caution was given.
	In- formal.	Formal.	In- formal.	Formal.			
Arrowroot	2	5	—	—	—	—	—
Baking Powder	5	6	2	—	2	—	Slightly deficient available carbon dioxide.
Barley	1	21	1	—	1	—	Contained dead Acacia
Bread	2	—	—	—	—	—	—
Beef Suet with Flour	—	13	—	—	—	—	—
Beer	3	—	1	—	1	—	Excess acidity.
Beans, Lentils, Peas	1	37	1	3	1	—	Contained dead Acacia and damaged insects.
Butter	—	46	—	2	2	—	Slight excess of Water
Cake Decorations	3	8	—	—	—	—	—
Cake and Flour Mixtures	8	22	1	—	1	—	Slightly deficient available carbon dioxide.
Candied Peel	3	—	—	—	—	—	—
Cake and Biscuits	2	11	—	—	—	—	—
Cheese	—	2	—	—	—	—	—
Cocoa and Chocolate Mixtures	7	10	1	—	1	—	Incorrectly labelled
Cooked Meats	6	3	—	—	—	—	—
Coffee, Extracts and Mixtures	10	11	—	—	—	—	—
Condensed Milk	3	—	—	—	—	—	—

Nature of Sample.	Number of Samples.		Samples found not to be genuine or otherwise giving rise to irregularity.		Manufacturers or Vendors cautioned.	Prosecutions.	Remarks on Sample where Caution was given.
	In-formal.	Formal.	In-formal.	Formal.			
Confectionery and Sweets ...	15	20	—	—	—	—	—
Condiments and Spices ...	39	31	2	1	2	1	1 Contained dead Acari. 1 Contained trace of lead
Cornflour	3	4	—	—	—	—	—
Mustard, Blancmange, Junket....	15	21	—	—	—	—	—
Dripping, Lard and Compounds	—	5	—	—	—	—	—
Dried Fruits	5	41	—	—	—	—	—
Dried Herbs	19	8	3	—	3	—	Contained slight excess of sand.
Drugs and Medicines	92	64	5	4	6	3	Did not comply with printed formula.
Flavourings	10	6	2	1	3	—	Incorrectly labelled.
Flour	—	12	—	—	—	—	—
Fish Cakes	6	—	—	—	—	—	—
Golden Raising Powder ...	1	5	—	—	—	—	—
Gravy Salts and Browning ...	14	5	1	—	1	—	Contained a trace of copper.
Gelatine	4	7	—	—	—	—	—
Glace Cherries	3	4	1	—	1	—	Artificial Cherries sold in error.
Honey and Mixtures	3	—	—	—	—	—	—
Ice Cream	165	—	—	—	—	—	—
Jam, Marmalade, Mincemeat ...	10	5	—	—	—	—	—
Margarine	2	2	—	—	—	—	—
Mineral Waters, etc.	6	12	—	—	—	—	—
Milk	4,571	1,141	98	55	30	18	Milks mainly slightly deficient in milk fat.
Malted Foods	1	2	—	—	—	—	—
Meat Pies	2	—	—	—	—	—	—
Meat Extracts	2	—	1	—	1	—	Incorrectly labelled.

Nature of Sample.	Number of Samples.		Samples found not to be genuine or otherwise giving rise to irregularity.		Manu- facturers or Vendors cau- tioned.	Prosecu- tions.	Remarks on Sample where Caution was given.
	In- formal.	Formal.	In- formal.	Formal.			
Oatmeal and Cereal Foods ...	2	21	—	—	—	—	—
Olive Oil and Salad Oil ...	6	5	—	—	—	—	—
Preservative ...	1	—	—	—	—	—	—
Prepared Puddings ...	2	1	—	—	—	—	—
Pickles, Sauces, Chutneys ...	47	1	5	1	5	—	Contained undeclared preservative.
Sago, Semolina, Rice ...	4	58	—	—	—	—	—
Self-raising Flour ...	—	5	—	—	—	—	—
Sugar ...	1	33	—	—	—	—	—
Sausages and Sausage Meat ...	5	155	1	77	46	32	Slightly deficient in Meat.
Salad Dressings... ..	4	2	1	—	1	—	Incorrectly labelled.
Tea ...	—	42	—	—	—	—	—
Tinned Beans and Soups ...	5	2	—	—	—	—	—
Tinned Fruits ...	7	2	—	—	—	—	—
Tinned Vegetables ...	3	—	—	—	—	—	—
Tinned and Potted Meats ...	16	—	1	—	1	—	Slightly deficient in Meat.
Tinned and Potted Fish ...	14	—	—	—	—	—	—
Vinegar ...	3	6	1	1	2	—	Slightly deficient in acetic acid.
Wines and Spirits ...	—	13	—	—	—	—	—
TOTAL ...	5,164	1,936	129	145	111	54	

TABLE XVI.

OFFENCES UNDER THE FOOD AND DRUGS ACT, 1938.

Number of Informations laid	Nature of Sample	Nature of Offence	Result of	Legal Proceedings.	
			Number of convictions	Fines	Costs
18	Milk	Contained added water	18	£ 28 s. 5 d. 0	£ 54 s. 12 d. 0
1	Pickling spice ...	Contained living and dead insects	1	5 0 0	5 5 0
1	Compound Aspirin Liquid Mixture B.P.C.	Deficient in acetyl-salicylic acid to the extent of 41% ...	1	10 0 0	3 3 0
1	Do.	Giving with the mixture a label which falsely described such drug. (Deficient in Acetyl-salicylic Acid to the extent of 41%).	1	5 0 0	—
28	Beef or Pork Sausages	Deficient in Meat content (Deficiency varied from 15% to 56%).	28	118 0 0	71 8 0
1	Beef Sausages ...	Contained an excessive amount of Preservative (1200 p.p.m. of Sulphur-dioxide).	1	5 0 0	3 3 0
1	Do.	Deficient in Meat to the extent of 12%... .. (Same sample as above)	With-drawn	—	—
2	—	Refusal to sell to the Inspector, Food (Sausages) required as a sample.	2	6 0 0	—
1	Cough Mixture...	Alleged to be devoid of a stated ingredient, namely 1·2% of Glycerine	Dis-missed	—	—
54			52	177 5 0	137 11 0
				£314 16 0	

NOTE.—In regard to the Cough Mixture noted above, the defendant's Counsel disputed the analysis, and requested examination of the third portion of the sample by the Government Chemist, who found 1·06% of Glycerine present. The summons was dismissed and the Corporation ordered to pay £14 14s. 0d. costs to the defendant.

Fertilisers and Feeding Stuffs Act, 1926.

During 1949, 96 samples of fertilisers and feeding stuffs were submitted for analysis. It was not necessary to take any legal proceedings. All samples with minor exceptions were found on analysis to conform with the manufacturers' statutory statement.

Pharmacy and Poisons Act, 1933.

The Pharmacy and Poisons Act, 1933, regulates the sale of poisons. It is the duty of the Local Authority to carry out Part II of the Act, which deals with the registration of persons selling poisons mentioned in the Poisons List Order, 1949. The number of names entered in the register is 893. It was not necessary to institute any legal proceedings.

Ice Cream.

There is not at present any legal standard for the chemical quality of ice cream and different makes vary considerably in the amount of fat and sugar which they contain.

The results of chemical analysis of 165 samples of ice cream taken during the year show that the amount of fat varied between 0·7 per cent. and 16·3 per cent., whilst sugar varied between 6·0 per cent. and 22·9 per cent.

The average of the samples taken showed 6·0 per cent. fat and 14·0 per cent. sugar.

On May 1st, 1947, the Ice Cream (Heat Treatment, etc.) Regulations became operative. The regulations require *inter alia* that the ingredients of ice cream, other than a complete cold mix, shall be heat treated after being mixed and cooled until the freezing process is begun. A complete cold mix, that is a mixture capable of being manufactured into ice cream with no addition except that of water, need not be heat treated. All other mixtures must be raised to a temperature of not less than 150°F. for 30 minutes or 160°F. for not less than 10 minutes. The mixture must then be cooled to not more than 45° F. within 1½ hours and kept at that temperature until frozen for sale.

Ice cream must be protected from contamination by dust or dirt at all times, and not offered for sale unless it has been kept at or below a

temperature of 28° F. If the temperature of the ice cream exceeds 28°F. at any time after it has been heat treated and frozen, then it may not be offered for sale until it has been subjected again to heat treatment.

The premises, plant and utensils of all makers and vendors of ice cream, are regularly inspected and during the year, 2,483 visits were made to ensure cleanliness of methods of manufacture.

In March, 1947, the Medical Research Council in conjunction with the Ministry of Health recommended that the methylene blue test could be adapted for the purpose of defining 4 grades of bacterial cleanliness of ice cream, in the relative degrees of cleanliness, No. 1 being highest standard. Grade 1 is specified where the time taken for complete decolorization of methylene blue takes $4\frac{1}{2}$ hours or more; Grade 2 where time is between $2\frac{1}{2}$ -4 hours; Grade 3— $\frac{1}{2}$ -2 hours; Grade 4—0 hours, i.e., reduction takes place at the end of the pre-incubation period.

During the year, 261 samples of ice cream were submitted for methylene blue test. The results of examination were as follows:—98 samples qualified for Grade 1; 64 for Grade 2; 35 for Grade 3; 64 for Grade 4.

THE SUPERVISION OF COWSHEDS, DAIRIES AND MILKSHOPS.

Registration of Dairies.

TABLE XVII.

(Milk and Dairies Order, 1926.)

Number of registered dairies at the end of 1948.	New applications for registration.	Registration refused.	Dairies removed from the register.	Number of registered dairies at the end of 1949.
489	5	—	37	457

(14 dairies were transferred from one person to another.)

Inspection of Dairies.

1,564 visits of inspection were paid to dairies. In 29 instances infringements of the Milk and Dairies Order, 1926, were found. In every case where a notice of requirements was issued, it was complied with at once.

Registration of Dairywomen.

TABLE XVIII.

Number of registered dairywomen at the end of 1948.	Applications for transfer of registration.	Applications refused.	Ceased to be dairywomen.	Remaining on the register, Dec. 31st, 1949.
495	14	—	38	462

Of the 462 dairywomen on the register at the end of the year, 5 were milk-hawkers who, having no premises of their own, are registered at the dairy from which they obtain their supplies and store their utensils.

Cleanliness of Milk Churns and Bottles.

Observations were made at railway stations and other distributing centres to ensure that Sections 28 and 29 of the Milk and Dairies Order, 1926, relating to the marking, construction and cleanliness of milk churns, were complied with. 2 notices were sent to farmers outside the city drawing their attention to defects in milk churns. In each case the defects were remedied.

It is satisfactory to record that during the past year, only 1 complaint has been received from a consumer, of milk being delivered in a dirty bottle. In this case, the matter was investigated and effective steps taken to prevent a recurrence.

Licensing of Premises for Keeping Cattle.

Under Sections 475 to 483 of the Liverpool Corporation Act, 1921, every person who keeps cattle is required to hold a licence from the Corporation both in respect of himself and also in respect of the premises. Tables XIX and XX give summaries of the registers of licences in respect of milch cows and pigs:—

TABLE XIX.

LICENSING OF PREMISES ON WHICH MILCH COWS ARE KEPT.

	End of 1948.	End of 1949.
Number of licensed cowsheds	123	104
Number of cows specified on the licences	2,448	2,069
Approximate average number of cows kept ...	1,749	1,646

Of the above 104 licences, 22 are issued to persons other than dairymen, who keep store cattle, or cows for the production of milk for their own use, as distinct from persons who produce milk for sale. 3 licences were transferred from one person to another.

571 inspections were made of cowsheds and in 38 cases attention was required to defects and to contraventions of the Liverpool Corporation Act, 1921. All requirements were ultimately complied with and no prosecution was necessary, nor was any licence forfeited because premises were not maintained in proper condition.

TABLE XX.

LICENSING OF PREMISES ON WHICH PIGS ARE KEPT.

	End of 1949.
Number of licensed piggeries	98
Number of pigs specified on the licences	3,475
Approximate average number of pigs kept	1,170

12 new licences to keep pigs were applied for, involving the keeping of 47 pigs. These applications were granted. 7 licences were surrendered. 262 visits of inspection to piggeries were made, 14 piggeries visited were the subject of notices drawing the attention of the occupiers to contraventions of the Liverpool Corporation Act, 1921, and in every case the notice was complied with. In farms situated in the outer districts of the city, premises licensed for the keeping of milch cows may be also used for keeping store cattle. At the end of 1949, 465 store cattle other than dairy cows were kept on licensed premises. One licence to keep 12 store cattle was forfeited and 3 licences involving the keeping of 21 store cattle were granted.

Daily Supply of Milk to Liverpool.

TABLE XXI.

DAILY CONSUMPTION OF MILK DURING 1949.

Grade of Milk.	Quantity in Gallons.
Tuberculin-tested (Certified)	192
Tuberculin-tested	1,256
Tuberculin-tested (Pasteurised)	15,843
Accredited	3,717
Raw ungraded	843
Pasteurised under licence	44,154
Heat-treated to pasteurisation standard	378
Sterilized	10,511
TOTAL ...	76,894

TABLE XXII

DAILY SOURCE OF MILK DURING 1949.

Produced from cows kept within the City.	Brought into the City by road.	Brought into the City by rail.
4,938 gallons	71,796 gallons	160 gallons

TOTAL, 76,894 gallons.

TABLE XXIII

NUMBER OF PRODUCERS AND VENDORS OF MILK LICENSED UNDER THE MILK
(SPECIAL DESIGNATIONS) REGULATIONS 1936/46.

Nature of licence	Tuberculin Tested (Certified) Milk.	Tuberculin Tested Milk	Tuberculin Tested (Pasteurised) Milk.	Accredited Milk.	Pasteurised Milk.
Producer only ...	0	5	0	25	0
Producer and retail vendor	1	0	7	28	12
Retail vendor only ...	2	16	280	0	0
Supplementary ...	0	0	2	0	2

The following changes in licence holders took place:—

“Tuberculin Tested Milk.”

- 1 new licence was granted to a Producer of Tuberculin Tested Milk.
- 3 new licences were granted to Bottlers of Tuberculin Tested Milk.
- 99 new licences were granted to Vendors of Tuberculin Tested (Pasteurised) Milk.

“Pasteurised Milk.”

- 2 new licences were granted for the pasteurisation of milk by the Holder process.

“Accredited Milk.”

- 3 licences to produce “Accredited” Milk ceased to be operative during the year.

4 licences were granted to "Accredited" Producer Bottlers, each of whom previously held "Accredited" Producer licences only.

1 new licence was issued to an "Accredited" Producer Bottler.

Milk Pasteurisation.

The following methods of pasteurisation of milk were adopted:—

6 establishments have the Holder type or batch pasteuriser with 8 units of varying capacity from 75 gallons to 200 gallons.

6 establishments have High Temperature Short Time plants with 7 units of capacity varying from 450 to 2,500 gallons per hour.

Additional pasteurising plant has been installed at one establishment and a change-over from the Holder Method to the H.T.S.T. method has been effected in one case.

5 applications have been received for licences to pasteurise milk and in each case prior approval of the type of plant selected by the applicant was sought. Most of this plant is now on the premises and will be completed early in 1950. It is noteworthy that in two instances, prospective pasteurisers are providing for gas-fired boilers to be used at their establishments.

During the year, 87 visits were made to pasteurising establishments during pasteurisation of milk. Temperature records were checked and in 9 instances it was found that the instruments required adjustment. In each case the adjustments were made and upon re-examination, the plant was found to be operating correctly.

Food and Drugs Acts, 1938-1944.

Milk (Special Designations) (Raw Milk) Regulations, 1949.

Milk (Special Designations) (Pasteurised and Sterilised Milk) Regulations, 1949.

Milk and Dairies Regulations, 1949.

The above-named Regulations became operative on 1st October, 1949, and on that date it became the responsibility of the Ministry of Agriculture and Fisheries to register all dairy farms. Up to that date, these

licences were issued by the Local Authority and provision was made in these Acts and Regulations for current licences to continue to be operative on the above date, also those of all producers of milk who were registered as such by this Authority.

Under the terms of the above-named Regulations, it became necessary on and after October 1st, 1949, for all persons operating plant for the sterilisation of milk, to obtain an appropriate licence to carry out that process. Three persons applied for such licences and these were granted.

All persons selling sterilised milk are required to be licensed. 652 premises were visited, and out of this number 635 applications for licences to sell sterilised milk were received. In each instance licences were granted. 17 of the above 652 premises had ceased to be used for the sale of sterilised milk.

The 462 dairymen, already registered, will be granted new registration certificates, dated October 1st, 1949, in accordance with the above-named Regulations.

AMBULANCE SERVICE.

The records of the first completed year of the City Ambulance Service operating under the National Health Service Act, 1946, indicate a considerable increase in the number of removals. The total removals for the year increased by 32,737, or 60·6 per cent. when compared with the previous year.

The necessity of removing patients to places outside the City boundary after Hospital treatment has now become a major feature of the Service. During the year under review, 2,729 persons were conveyed, whilst during 1948 the number was 308.

The introduction of the National Health Service (Amendment) Act, 1949, on the 16th December, 1949, now provides for a charge to be made to other local authorities for such cases. The new regulation will, to some extent, minimise the imposition borne by many Authorities having large hospital centres within their boundaries and will prove of financial benefit to this Authority.

The Prince's Landing Stage, Docks, and the Speke Airport have caused the Service additional work in respect of patients arriving from overseas. Sick persons arriving by sea or air at the Port of Liverpool have been conveyed to all parts of the country. These cases are thoroughly investigated beforehand and the Service has not been abused.

Comments have appeared in the National Press from time to time relative to the alleged abuse of the Ambulance Service. So far as Liverpool is concerned such abuse has been kept to a minimum. Of the few cases investigated, the Medical Officers and Almoners at Hospitals have readily arranged for the names of the persons concerned to be removed from the lists.

Infectious cases continue to be removed by ambulances stationed at the Gascoyne Street Depot. This work is carried out by 14 driver-attendants and 8 ambulances. The figures show a slight decrease when compared with 1948.

Arrangements have been made with Cheshire County Council and Birkenhead County Borough Council for the Liverpool Ambulance Service to remove smallpox cases in their areas at an appropriate charge.

A Bed Bureau for infectious cases is maintained at the Gascoyne Street Depot and is used extensively by neighbouring authorities to enable them to obtain vacancies for their cases.

Many removals have been undertaken on behalf of the Bootle County Borough Council and the Lancashire County Council, and as these authorities obtain new vehicles and depots, it is expected that they will undertake their own commitments.

The Merseyside Hospitals Council have continued to use their Ambulance Service on behalf of the Liverpool Corporation on an agency agreement. The 16 ambulances operated by this Service have carried out 43,908 removals during 1949, travelling 189,041 miles. The staff comprises 1 Ambulance Manager, 3 Clerks, 28 Driver-Attendants, 1 Mechanic, 1 Labourer and 1 Cleaner.

The Hospital Car Service and local taxi firms rendered valuable assistance during the early part of the year, but this work has now been considerably reduced.

Progress is now being made with the provision of new vehicles for the City Ambulance Service; 6 new ambulances have been delivered during the year and 4 old ones have been disposed of. (Many of the Chevrolet Ambulances, which are not very suitable for civilian work, have been taken out of service. These vehicles have been retained pending a decision on Civil Defence requirements).

The present fleet comprises 47 Ambulances, 9 Sitting-Case Cars and 4 Shooting Brakes.

The repair and maintenance of the Ambulance fleet is undertaken at the Belmont Grove Depot by a staff of 1 Foreman Mechanic, 6 Mechanics, 2 Apprentices and 1 Labourer. Extensive body repairs and repainting have been carried out by the Liverpool Corporation Passenger Transport Department and by outside contractors.

48,964 gallons of petrol have been consumed during the year, which is an increase of 9,748 gallons on the 1948 figures. An analysis of individual vehicles reveals that Ambulances used for general removals travelled between 12 to 14 miles per gallon, whilst similar types of vehicles used solely on accident work travelled between 9 to 10 miles per gallon.

Plans are now being prepared for alterations to the Belmont Grove Ambulance Depot in order to allow vehicles to gain access to Lower Breck Road and thereby relieve congestion in the Hospital drive. The main offices, stores and control room will also be accommodated at this depot.

The Accident Ambulances continue to be housed in certain Police premises as follows:—

- 1 at Westminster Road.
- 1 at Seel Street.
- 1 at Heald Street, Garston.
- 1 at Rose Lane, Allerton.
- 1 at Derby Lane, Old Swan.

Urgent representations have been made for these Ambulances to be removed to alternative accommodation. A scheme is under consideration for a new depot at Kirkdale Homes which will house the vehicle from Westminster Road, and consideration is being given to a depot on the south side of the City to provide for the Old Swan and Allerton Ambulances. It is not proposed to move the Garston Ambulance at the present time.

The Administrative Staff of the Service comprises 1 Chief Ambulance Officer, 1 Deputy Chief Ambulance Officer, 1 Senior Control Assistant, 4 Control Assistants, 2 Clerks and 1 Telephone Operator. The Operational Staff numbers 70 male driver-attendants, 13 male attendants, and 22 female driver-attendants. With the exception of 9 driver-attendants, all the staff are now qualified in First Aid.

AMBULANCE STATISTICAL REPORT.

STATISTICAL REPORT, 1ST JANUARY, 1949, TO 31ST DECEMBER, 1949.

Non-infectious cases removed from:

Home to Hospital	...	...	...	...	...	47,521
Hospital to Home	...	...	...	...	...	16,494

Infectious cases removed from :					
Home to Hospital	...	...	...	...	4,545
Mental cases removed from :					
Home to Hospital	...	...	...	...	377
Accident cases removed from :					
Home, Streets, etc., to Hospital	...	...	...	...	6,862
Inter-Hospital transfers	...	...	...	...	8,172
Removals to places outside the City	...	...	...	...	2,729
Total	...	...	...	...	86,700
Cases requiring the service of Ambulance Sisters					
...	...	...	...	...	8,317

VEHICLES.

Ambulances.				Number in Service.	Mileage covered.	Petrol used (gallons).
Non-infectious	...	...	...	30	291,828	25,231
Infectious	...	...	...	8	60,512	5,418
Accident	...	...	...	9	68,450	8,019
Sitting case cars	...	...	...	9	131,338	6,821
Brakes...	...	...	...	4	44,858	3,475
TOTALS	...	...	...	60	596,986	48,964

DISINFECTION AND DISINFESTATION.

The staff of the Disinfection and Disinfestation Section is engaged primarily on duties concerned with the prevention of disease, and the disinfestation of verminous premises, but there are other duties for which the section is responsible. These are detailed below:—

INSPECTIONS FOR VERMIN.

During the year, the Disinfestation Inspectors made 6,364 visits to dwelling-houses to inspect for vermin. The reason for their visits and the results of their inspections are given in the following table:—

Reason.					Verminous	Not Verminous	Total.
Transfer	...	...	...	...	20	625	645
Exchange	...	...	...	...	33	1,672	1,705
Re-housing	...	...	...	...	777	1,458	2,235
Other Inspections	...	...	...	...	256	1,523	1,779
TOTALS					1,086	5,278	6,364

TREATMENT OF VERMINOUS PREMISES.

In consequence of the Disinfestation Inspectors' visits, 947 dwelling-houses were disinfested. Of this number 611 were treated with a D.D.T. solution and 336 with GAMMEXANE solution.

In 698 cases where re-housing was intended, the furniture which it was proposed to remove was treated with a D.D.T. solution. This system has superseded the method whereby free removal of furniture and cyanide treatment was arranged for new tenants of Corporation properties.

In connection with the disinfestation of verminous premises, it was found necessary to remove verminous bedding from 1,645 dwelling-houses for steam disinfestation.

The department has arrangements with a number of local firms and undertakings for the periodic disinfestation of their canteens, locker rooms, etc. Under these arrangements 61 treatments were carried out during the year, the cost being defrayed by the firms concerned.

DISINFECTION.

5,386 infectious premises were disinfected during the year and 23,619 infectious articles removed for steam disinfestation.

DISINFECTING STATIONS.

The two disinfecting stations dealt with the following materials during the year :—

17,233 verminous articles from premises in course of disinfestation.

23,619 infectious articles and 1,531 library books from premises and ships where infectious disease had occurred.

1,690 infectious articles on behalf of Bootle Public Health Department.

405,289 articles for precautionary disinfection on behalf of local firms, who defray the cost of such treatment.

624 tons of miscellaneous goods for export, the outer wrappers of which required treatment by sulphur dioxide.

FLY PREVENTION.

Fly prevention measures were continued by 4,066 treatments of manure middensteads and dumps. These measures met with a considerable amount of success during the past year.

CITY MORTUARY.

The City mortuary received 402 bodies during the year from the City. Post-mortem examinations were held on 356 of these bodies. In addition, the bodies of 28 stillbirths were received.

BURIAL OF POOR PERSONS.

The burial or cremation of the bodies of poor persons who died in the City, is a duty which has been undertaken since 5th July, 1948. During 1949, 207 adults and children, and 96 stillborn babies were buried, and 3 adults cremated.

In addition, the department has an arrangement with local Hospital Management Committees for the transport of bodies from hospital to hospital. 165 bodies were removed under this arrangement, the cost of which is borne by the hospital concerned.

GIFT FOOD PARCELS.

The storage, transport, and distribution of gift food parcels are undertaken by this section, approximately 5 tons of foodstuffs being distributed from the main depot at Gascoyne Street.

GENERAL TRANSPORT.

M. & C.W. Section.

Distribution of food, stores and equipment to M. & C.W. centres and day nurseries, stores and equipment to Municipal Midwives.

Welfare Services Section.

Distribution of food, stores and equipment to premises controlled by Welfare Services Section.

Collection and transport of furniture and household effects of distressed persons.

The services associated with the transport and feeding of repatriated persons coming into the City.

Children's Department.

Distribution of food, stores, and equipment to premises controlled by the Children's Officer.

Police.

Transport of food to the Police Training College at Allerton.

To maintain these services, 9 vehicles are in continual use, and during the year have covered 85,863 miles.

SMOKE ABATEMENT.

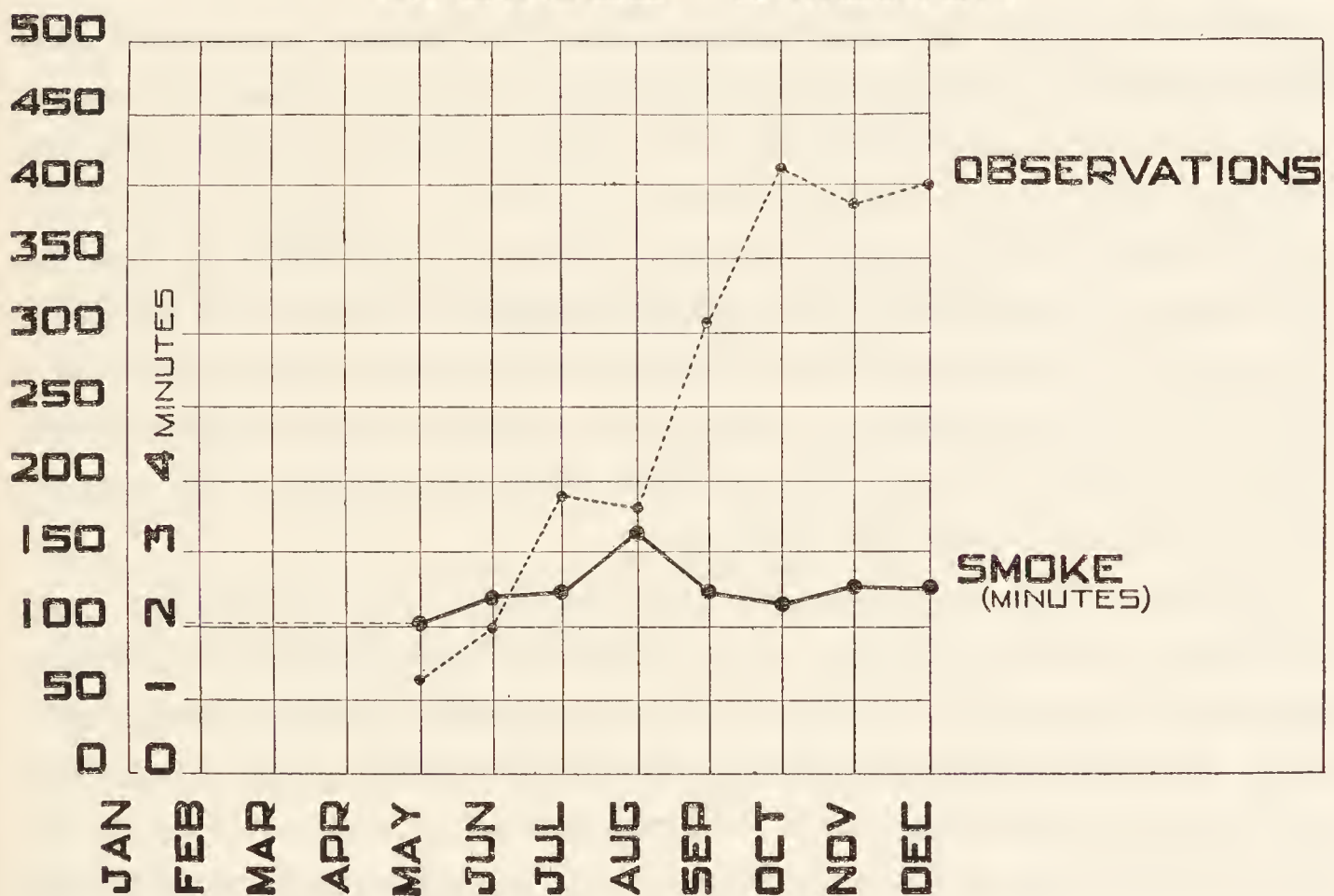
Industrial Smoke.

The work of smoke abatement has continued during the past year with some measure of success, as the accompanying graph shows, the average excessive smoke emission for the City having been prevented from rising generally in spite of the increasing number of observations of chimneys, the general increase in trade, and the continued difficulties of fuel supplies under which industry is working.

The graph shows a record of timed observations and average smoke emissions for the months May to December.

GRAPH 1.

MONTHLY SMOKE OBSERVATIONS AND AVERAGE EMISSION



Visits by Smoke Inspectors to industrial premises following emissions of excessive smoke have revealed that the causes of excessive smoke were chiefly lack of knowledge of efficient boiler and furnace operation or carelessness on the part of the fireman. These causes were particularly noticeable when inferior or low-grade fuels were being handled, and were aggravated in some cases by the shortage of skilled firemen.

Other causes were due to hand-firing boilers which could more efficiently be mechanically stoked and also the defective condition of mechanical stoking and draught equipment for which replacements were very much delayed. Failure to obtain suitable fuels for efficient mechanical stoking aggravates this and in some cases has prohibited the conversion from hand-firing to mechanical stoking. Overloaded boiler plants contributed their share of excessive smoke nuisance as well as equipment in which structural defects prevented efficient operation.

A few cases were reported of excessive smoke from the firing of wood refuse in boiler furnaces not constructed for that kind of fuel. One particular cause of excessive smoke investigated was found to be a breakdown of plant at one of the Gas Works.

With a view to overcoming the problems which gave rise to these causes of excessive smoke, the co-operation of the firms concerned was sought and in the main was forthcoming.

With the object of instructing firemen and stokers in correct and efficient methods of boiler and furnace operation, two film shows were arranged by the Health Department at which instructional films dealing with the subject in a practical manner were shown. Invitations were sent to local firms to permit their firemen and boiler attendants to view the films, and as a result there was a total attendance of some three hundred. Considerable interest was aroused amongst those attending as they saw the hitherto little known or understood scientific side of their work. Further reference is made to this aspect under the caption "Lectures on Smoke Abatement and Fuel Economy."

Technical advice and practical demonstrations were frequently given to firemen, works engineers and owners of factories by the Smoke Inspectors during their visits to works following excessive smoke emissions. A number of conversions from hand-firing boilers with bituminous coal to mechanical stoking or to oil fuel firing or, in some cases, to smokeless solid fuel, has undoubtedly brought about a reduction in atmospheric pollution at least in the immediate neighbourhoods. Repairs to plant and the provision of further mechanical stokers is expected to extend in the near future, and considerable interest is being shown in the development by some mechanical stoker manufacturers of improved types of coking stoker and underfeed stoker suitable for burning either coal or coke, or a mixture of both.

Excessive smoke from vertical boilers which were found to be burning bituminous coal has been prevented by a change to coke fuel and in one case was brought about by a reduction in the area of the firegrate. Coke is being effectively and efficiently burnt on hand-fired horizontal return fire-tube boilers where previously excessive smoke resulted from burning raw coal.

Certain chimneys have been raised to a more suitable height thereby improving draught and enabling smokeless fuels to be burnt and, at the same time, carrying away the products of combustion into higher levels of the atmosphere. Smoke and products of combustion from a number of metallurgical furnaces have been caused to be dissipated at a much higher level than that of surrounding property where, previously, they had daily produced an almost continuous fog in the adjoining street to the detriment of the health of the inhabitants, and with danger to traffic and street users.

Improvements recorded by the Smoke Inspectors which have been carried out during the year in industry and which have resulted in the abatement of smoke pollution total 55 and include:—

Chimneys raised	...	...	...	...	...	...	...	11
New boilers installed thereby increasing boiler power	...	...						8
Conversions from coal fuel to smokeless solid fuel	...	...						8
Conversions from coal fuel to oil, gas or electricity	...	...						4
Grit arresting appliances fitted	...	...	...	...	...	...		3
Instrumentation of plant including smoke indicators	...	...						3
Improved grades of fuel supplied	...	...	...	...	...	...		2
Mechanical stokers fitted	...	...	...	...	...	...		3
Processes altered; plant altered, repaired or renewed	...	...						13

Grit Emission from Chimneys.

In addition to smoke nuisances, complaints were received of heavy grit emissions which were found to be the results of using forced draught on boiler furnaces fitted with sprinkler type mechanical stokers using fuels containing a large percentage of “fines” instead of fuels graded to suit the machines, which were unobtainable in adequate quantities.

This is not only a local problem but appears to be one of national economy in consequence of which there does not seem to be any possibility of suitably graded good quality fuel being made available in sufficient quantities for local consumption for many years to come. If smoke and grit nuisances are effectively to be abated, industrial plant will require to be adapted to suit the available fuel supplies. It is hoped that manufacturers when installing new combustion plant will bear this point in mind in order that subsequent trouble may be avoided.

The deposit of ash and grit from one of the Corporation Destructor chimneys which had given rise to complaints has been considerably reduced by the installation of water sprays in the main flue. At a metallurgical works, a similar kind of nuisance has been successfully reduced by introducing an expansion chamber in the main flue. At a third factory an improved design of flue baffle has prevented the emission of ash from a large incinerator plant. Two other establishments are considering the provision of grit arrestors in the event of present methods to abate the nuisance not being successful.

It is anticipated that progressive reconstruction of plant will continue, although it would be advantageous to both the Department and manufacturers if plans and drawings for new combustion plant before being installed could be approved by the Department.

Smoke abatement duties are carried out under the Public Health Act of 1936 and a Bye-Law made thereunder.

No statutory action was, however, taken during the year but, following advisory visits by the Smoke Inspectors to firms whose chimneys have been guilty of emitting smoke in excess of the standards laid down, and their study of the problems and causes of excessive smoke, co-operation in smoke abatement has been generally forthcoming. Visits to persistent offenders have been followed up by letters to the firms asking for co-operation. This method of working has so far shown some measure of success and in most cases a genuine wish to co-operate with the Department.

The smoke inspection work carried out by the Department during 1949 is shown in the following figures:—

Total number of timed observations of chimneys ...	... 2,061
Average excessive smoke emission per half hour observation	2.53 min.

Number of advisory visits to works, ships, etc.	415
Number of other visits to works, etc.	636
Number of complaints of smoke dealt with	52
Number of improvements to plant, etc., recorded	55

Smoke from Shipping.

Concentrated attention has been given to smoke from shipping on the River Mersey and in the Liverpool Docks and whenever possible advisory visits have been made by the Smoke Inspectors to offending vessels and the Master or Engineer has been interviewed.

In almost all cases where such visits and inspections were made, the cause of smoke was found to be carelessness in firing the boiler furnaces or in attending to oil burning apparatus.

Letters have been addressed to the owners of the offending vessels asking for co-operation in keeping down excessive smoke, and the response has so far been gratifying. As a result there is a marked improvement in excessive smoke emissions from vessels on the River.

Action, if necessary, can be taken under the Liverpool Corporation Acts of 1921 and 1936, but it is hoped that the present method of co-operative working between the Department and ship owners will continue to give the required results.

Smoke from Commercial and Business Premises.

This may be regarded as including smoke from central heating plant, cooking ranges and open fires in office blocks, hotels, restaurants, warehouses, hospitals and institutions, saleshops and stores, etc., and as the colder months of the year approach, a marked increase of atmospheric pollution is noticeable to which these premises add their quota.

The apparently small amount of pollution contributed by each of the thousands of commercial and business premises chimneys, particularly in the City business area, which serve fires using raw coal, quickly forms a fog blanket over the City as fires are lighted-up in the mornings. Re-charging of those fires is not simultaneous as is the lighting-up, and consequently the pollution is generally not so noticeable during the day.

Not only does this blanket of smoke effectively cut off what little ultra-violet ray there is during the winter months, but it also indicates considerable fuel wastage by inefficient combustion and by the need for additional artificial lighting in the City during the better part of the day.

Results shown by the Automatic Air Filter and set out in the following graphs indicate without doubt the enormous increase in atmospheric pollution as the cold weather arrives, as well as the daily increase due to lighting fires for heating and cooking.

The remedy is to be found in measures to prevent the burning of raw coal in any open fireplace, cooking range or heating plant unless fired by suitable mechanical means which controls the air and fuel supply or by the efficient use of smokeless solid fuel, oil fuel, gas or electricity.

In a number of cases which have received attention by the Department smokeless combustion has been effected by procuring a change from raw coal, and at one big hotel in particular a large-scale conversion from hand firing bituminous coal to oil fuel burning has removed one of the worst smoke nuisances from the City Centre.

It is hoped that offices and premises under control of the City Council will, before long, have their open fires changed from burning coal to burning smokeless fuels, so that an example can be held up to other raw coal users of what the true meaning of smoke abatement is and that the daily smoke pall over the Centre of the City during the cold months may be somewhat reduced.

Fumes and Smells.

A number of complaints of fumes and smells were received and when, upon investigation, they were found not to be connected with combustion processes, were referred to H.M. Inspector of Factories or to the local Inspector of Workshops and Factories for attention.

Domestic Smoke.

This is estimated to cause, in Liverpool, approximately fifty per cent. of the total amount of atmospheric pollution.

One of the most offensive and unpleasant of smoke nuisances arises from the wilful or neglectful firing of dirty chimney flues. Coal-fired domestic chimneys should be swept regularly once or twice a year in order to prevent the soot from being set on fire. Prosecutions for this class of offence are carried out by the Police, and the number of such prosecutions for the year was 314.

The increased use of gas and electricity and the provision of smokeless firegrates and appliances in new houses recommended by the Ministry of Health is reducing the smoke nuisance from domestic chimneys to some extent, but the problem cannot satisfactorily be solved so long as existing bituminous coal burning fireplaces are maintained in use and the supply of solid smokeless fuels is restricted.

The Department welcomes the action of the Minister of Health in requiring Local Authorities to specify only approved types of grates or stoves for installation in houses built under their housing schemes, and hopes that eventually this requirement will extend to houses built under private enterprise. This, together with encouraged use of smokeless fuels, will, without doubt, bring about increasing reduction in domestic smoke pollution.

During the year a campaign was organised by the local department of the National Gas Board to encourage the use of gas coke for domestic and other fires, and in due course, the results of this campaign should show a definite improvement in atmospheric pollution.

Rationing of house coal has reduced the pre-war consumption in the Liverpool district of approximately 19,000 tons per week during winter, by one-third. During the year some 12,250 tons only of bituminous house coal were used on an average per week, and because of this there was a considerable reduction in the amount of domestic smoke pollution, particularly in built-up areas, compared with pre-war figures. Comparison between figures of pollution deposited before the war, as shown by the standard Deposit Gauges referred to later, and figures for recent years confirm this. The increase in figures for pollution during the winter months is accounted for in part by the higher winter months' consumption of 14,700 tons per week on an average.

It is to be expected, however, that unless the use of smokeless fuels can be increased, when unrestricted coal supplies are once more available, there will be a considerable increase of atmospheric pollution, particularly in the winter months.

Another factor in the reduction of pollution was the increased use of gas and electricity for domestic purposes, some 6,632 million cubic feet of gas being consumed during 1949 compared with 4,253 million cubic feet in 1938 and 6,749 million cubic feet in 1948. Of a total of approximately 194,500 houses in the City, approximately 40,000 are using electricity for cooking whilst many others employ this form of power for heating.

Smoke from the Burning of Trade Refuse.

Many of the complaints received were of smoke from the burning of trade refuse in the open. This is a most obnoxious form of smoke nuisance as not only the smoke but offensive smells are discharged at ground level. Properly designed incinerators were recommended in all cases, failing the provision of which, burning of the refuse in the open was prohibited. In one case where an incinerator was provided the waste heat from the burning refuse is being utilised for generating steam in a waste heat boiler.

It was not possible for the Smoke Inspectors to see every case complained of as in some cases by the time the Inspector reached the premises the nuisance was no longer in evidence. In such cases the offender was interviewed and notified of the complaint and cautioned not to cause a smoke nuisance by burning trade refuse.

Smokeless Zones.

The possibility of the formation of a small smokeless zone in the centre of the City, with the object of forming a clean atmospheric core which ultimately may be developed into a completely smokeless city has not been overlooked.

Lectures on Smoke Abatement and Fuel Economy.

In order to encourage the education of firemen, stokers and boiler and furnace operators in the scientific use of fuels as a material contribution to the solution of the industrial smoke problem, a course of evening

lectures was designed, and invitations were sent to manufacturers to bring details to the notice of their employees. Results were most encouraging and 89 students enrolled for the lectures. In the majority of cases fees for the course were paid by the employers who, in some cases, expressed willingness to compensate their employees who were successful in obtaining the examination certificate at the end of the course.

In addition to the lectures, demonstrations were arranged at a number of works and public institutions, when the officials concerned were most co-operative and helpful.

Some difficulty arises over shift working which interferes with regular attendance of students, but this has partly been overcome by duplication of lectures.

National Smoke Abatement Society.

A representative of the Department attended meetings of the North-Western Branch of the National Smoke Abatement Society, including a joint meeting with the North-Western Division of the Institute of Fuel and also the Annual Conference of the Society.

Atmospheric Pollution.

Co-operation in atmospheric pollution research with the Department of Scientific and Industrial Research has continued during the year and results have been forwarded each month to the Superintendent of Observations.

Measurement of suspended and deposited impurities in the atmosphere have been carried out by the Public Health Department by means of three Standard Deposit Gauges and one Owen Automatic Air Filter.

The deposit gauges are situated at Netherfield Road, Oxford Street and Aigburth Vale and they record the amount of suspended impurities which are either deposited or carried down by rainfall.

The air filter is situated at Belmont Road and records the measurement of suspended impurities in that locality.

Standard Deposit Gauges.

Netherfield Road deposit gauge gives a general indication of conditions in a thickly populated and industrial area; the Oxford Street

gauge indicates sub-average City Centre conditions, and the Aigburth Vale gauge shows conditions in a residential area with large open spaces subject to drifting pollution from other areas.

The extent of atmospheric pollution as recorded by these gauges is indicated by figures in tons per square mile of total solids deposited on the surface and the amount of undissolved mineral matter, such as soot from domestic chimneys and grit from industrial chimneys, etc., and is shown in the following table and graphs.

Atmospheric pollution as recorded is relative to rainfall because the suspended impurities are washed out of the atmosphere into the gauge bowls and consequently the rise and fall of the pollution curves will be seen to follow the rainfall curve.

The drift pollution recorded in the Aigburth Vale graph is, as one would expect, moderately uniform, whilst impurities as shown in the Oxford Street graph, being more localised, are inclined to vary in intensity from month to month. The peak in the Oxford Street graph for total (dissolved and undissolved) solids in May appears to have been brought about by contamination due to fouling of the gauge bowl by birds, since the amount of insoluble matter is not abnormal. A normal peak for May is indicated by dotted lines in that curve.

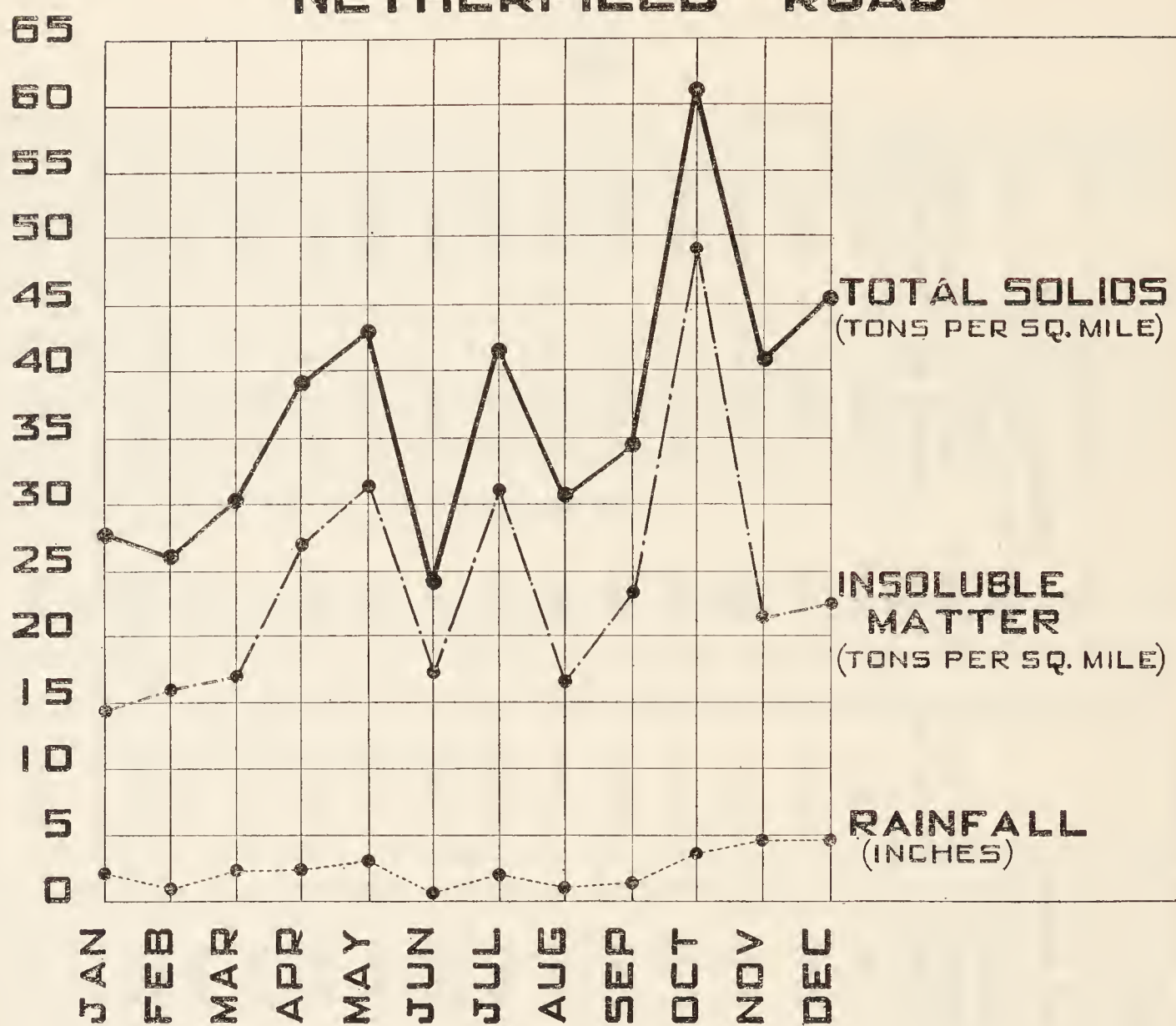
Greater variations and higher figures of deposited impurities are shown in the Netherfield Road graph, although the rainfall curve is normal. This is occasioned by the siting of the gauge in a thickly-populated and industrial area and within recording distance of the river and docks. The October peak appears to have been brought about as a result of a number of fires which occurred during that month in or near the area.

Results for Standard Deposit Gauges.

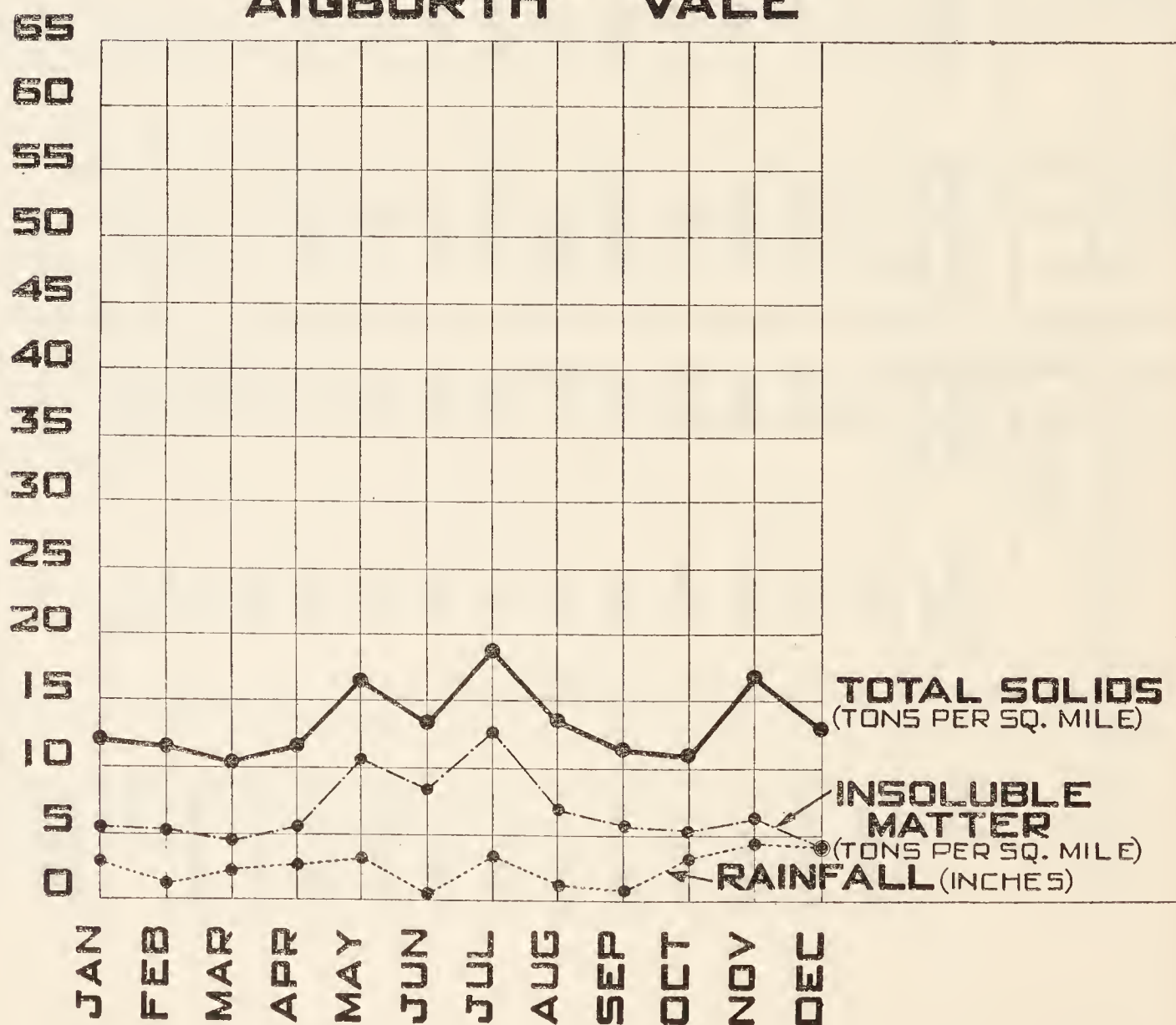
TABLE 1.

1949	AIGBURTH VALE.			OXFORD STREET.			NETHERFIELD ROAD.		
	Rainfall in ins.	Insoluble matter in tons/sq. mi.	Total Solids tons/sq. mi.	Rainfall in ins.	Insoluble matter in tons/sq. mi.	Total Solids tons/sq. mi.	Rainfall in ins.	Insoluble matter in tons/sq. mi.	Total Solids tons/sq. mi.
January ...	2·69	5·60	14·45	2·54	10·97	22·53	1·90	14·70	27·76
February ...	1·30	5·47	11·84	1·35	8·70	18·06	1·13	16·06	26·38
March ...	2·39	4·62	10·39	2·11	7·37	14·63	2·31	16·68	30·22
April ...	2·54	5·70	12·00	2·54	13·48	22·74	2·46	27·14	39·05
May ...	2·82	10·09	16·80	3·24	14·63	47·81	3·02	31·68	42·99
June ...	0·44	8·07	13·45	0·65	11·91	17·88	0·67	17·31	24·18
July ...	3·02	12·81	18·75	2·32	15·15	25·84	2·20	31·12	41·74
August ...	1·38	7·10	13·71	1·46	11·84	21·27	1·08	16·65	30·68
September ...	0·92	5·84	11·35	1·13	9·44	16·21	1·38	23·24	34·49
October ...	3·23	5·51	11·02	3·67	9·57	18·71	3·49	49·02	61·60
November ...	4·35	6·27	17·06	4·54	11·31	24·79	4·87	21·59	40·92
December ...	4·05	4·02	12·94	4·42	9·85	24·16	4·87	22·68	45·51
TOTAL	29·13	81·10	163·76	29·97	134·22	274·63	29·38	287·87	445·52
Average Monthly ...	2·43	6·76	13·65	2·50	11·19	22·88	2·45	23·99	37·13

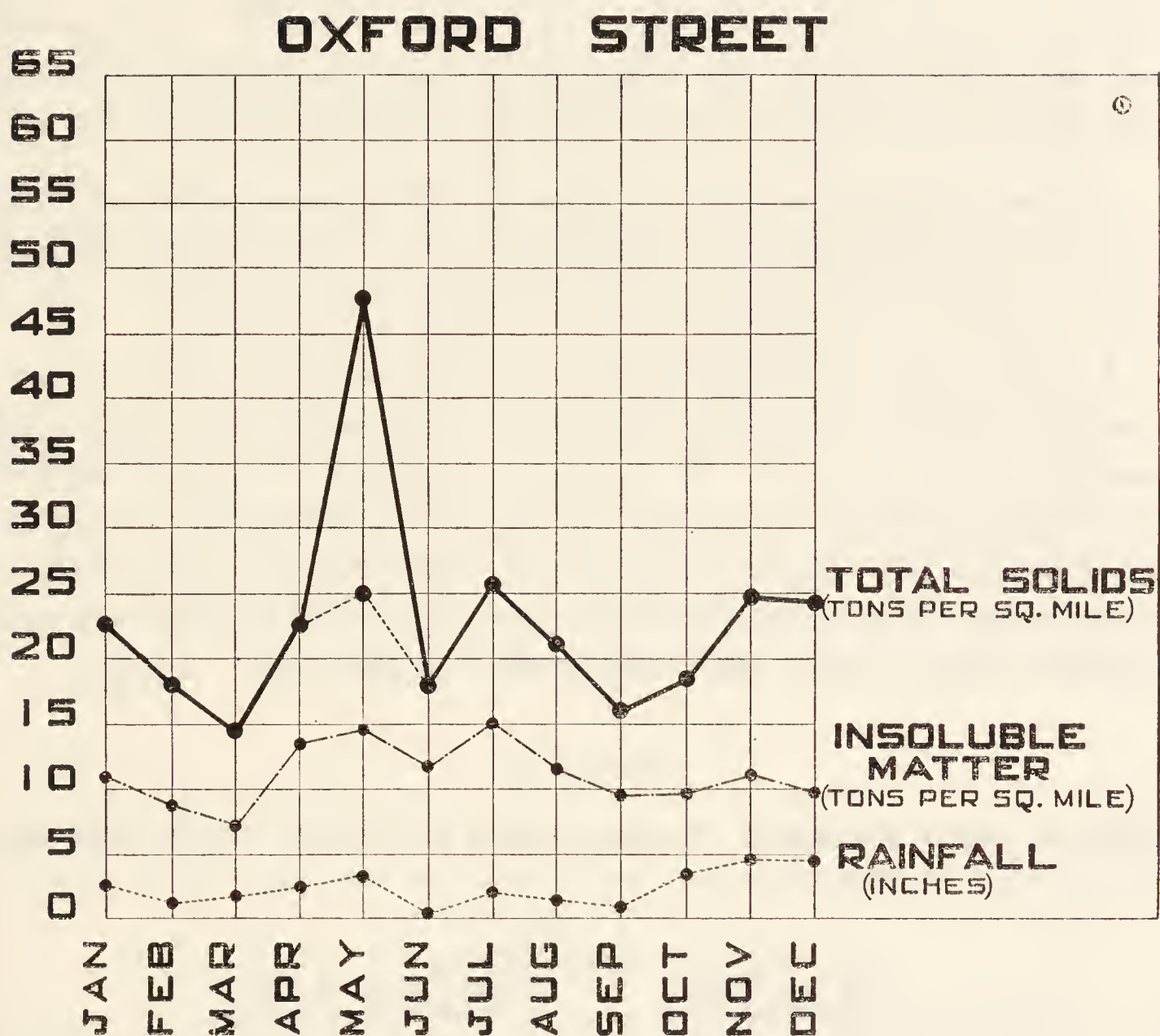
GRAPH 2.

NETHERFIELD ROAD

GRAPH 3.

AIGBURTH VALE

GRAPH 4.



Automatic Air Filter.

Suspended impurities are measured by means of an Owen's Automatic Air Filter which operates by drawing two litres of air at regular intervals through a disc of white filter paper. The impurities thereby trapped form a smudge on the filter paper and the intensity of the smudges is checked against readings from a standard of shade numbers. From these shade numbers the amount of suspended impurities in milligrammes per cubic metre is then calculated.

The Automatic Air Filter became permanently sited in June and results shown in the following table and graphs are, therefore, for four summer months and three winter months only.

The first of the graphs shows the daily average hour by hour throughout the months of June to December and indicates clearly the morning and evening peaks due to stoking-up of domestic and other fires for mid-day and evening meals. The second graph shows the increase in pollution during the colder months when domestic and other heating is put on.

The average daily curve for the whole of 1948 is shown by dotted lines on the 1949 June–December daily average curve and the monthly average curve for 1948 on the corresponding 1949 graph for comparison.

A careful check of daily wind direction and strength was made in conjunction with the Air Filter tests, and it was noted that with southeasterly winds, an increase of suspended impurities was most marked. Investigation showed that to the S.E. of the gauge site and at a distance of approximately $1\frac{1}{4}$ miles, there is an industrial area including a large railway marshalling yard and a gas works, and increased readings are, therefore, the result of drifting smoke from that area.

TABLE 2.

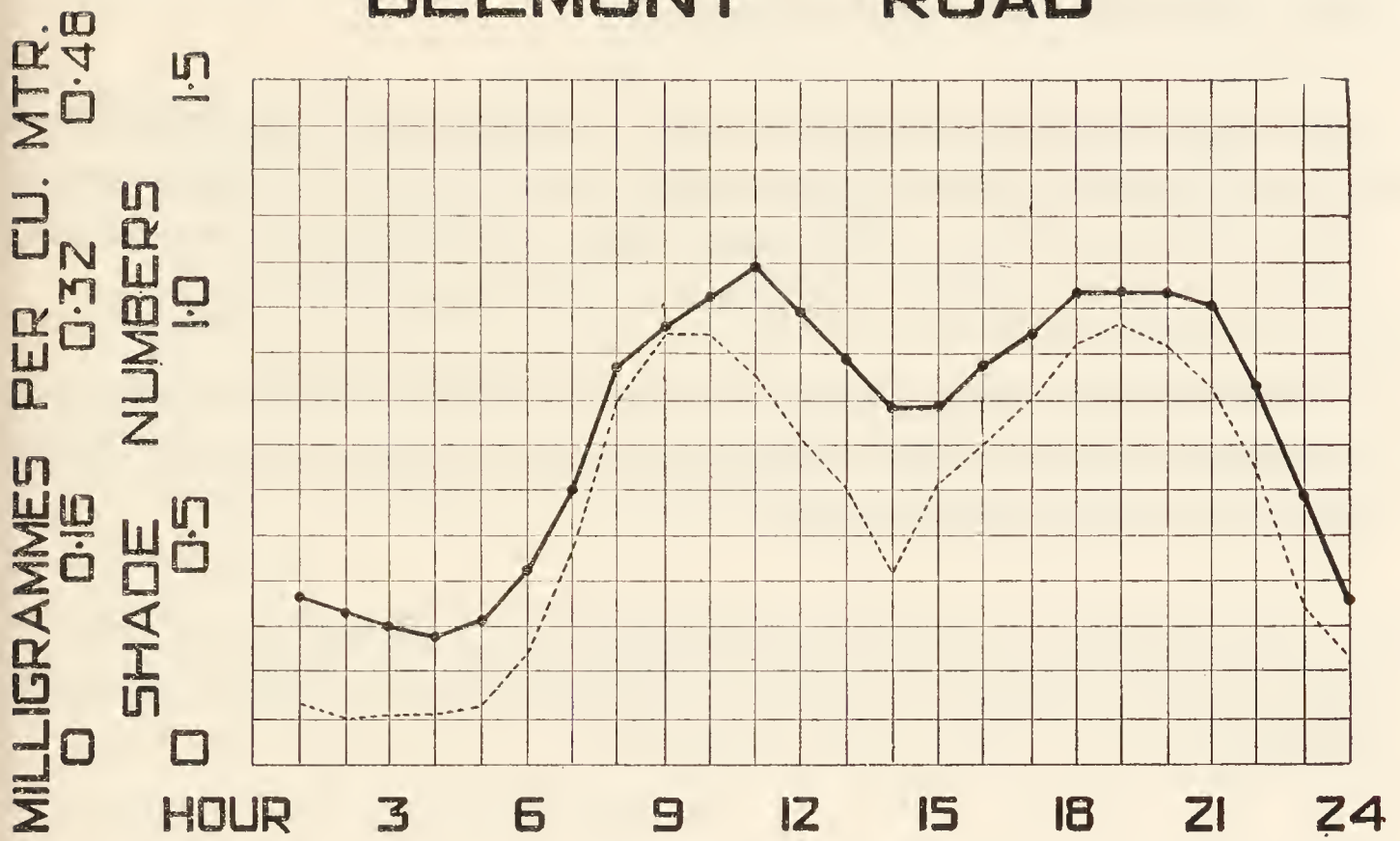
AVERAGE DAILY POLLUTION FIGURES MONTH BY MONTH THROUGHOUT 1949.

*SHADE NUMBERS.												
Sunday ...	N.R.	N.R.	N.R.	N.R.	N.R.	·30	·35	·22	·54	·95	·85	·98
Monday ...	N.R.	N.R.	N.R.	N.R.	N.R.	·15	·21	·32	·95	1·26	1·40	1·35
Tuesday ...	N.R.	N.R.	N.R.	N.R.	N.R.	·38	·20	·37	·81	1·01	1·64	1·76
Wednesday...	N.R.	N.R.	N.R.	N.R.	N.R.	·42	·39	·28	·72	·89	1·61	1·46
Thursday ...	N.R.	N.R.	N.R.	N.R.	N.R.	·30	·28	·29	·94	1·02	1·07	1·49
Friday ...	N.R.	N.R.	N.R.	N.R.	N.R.	·23	·29	·35	·76	·84	1·22	1·66
Saturday ...	N.R.	N.R.	N.R.	N.R.	N.R.	·24	·40	·28	·69	1·00	·65	1·34
	January	February	March	April	May	June	July	August	September	October	November	December

*To obtain the equivalent milligrammes per cubic metre multiply shade number by 0·32.

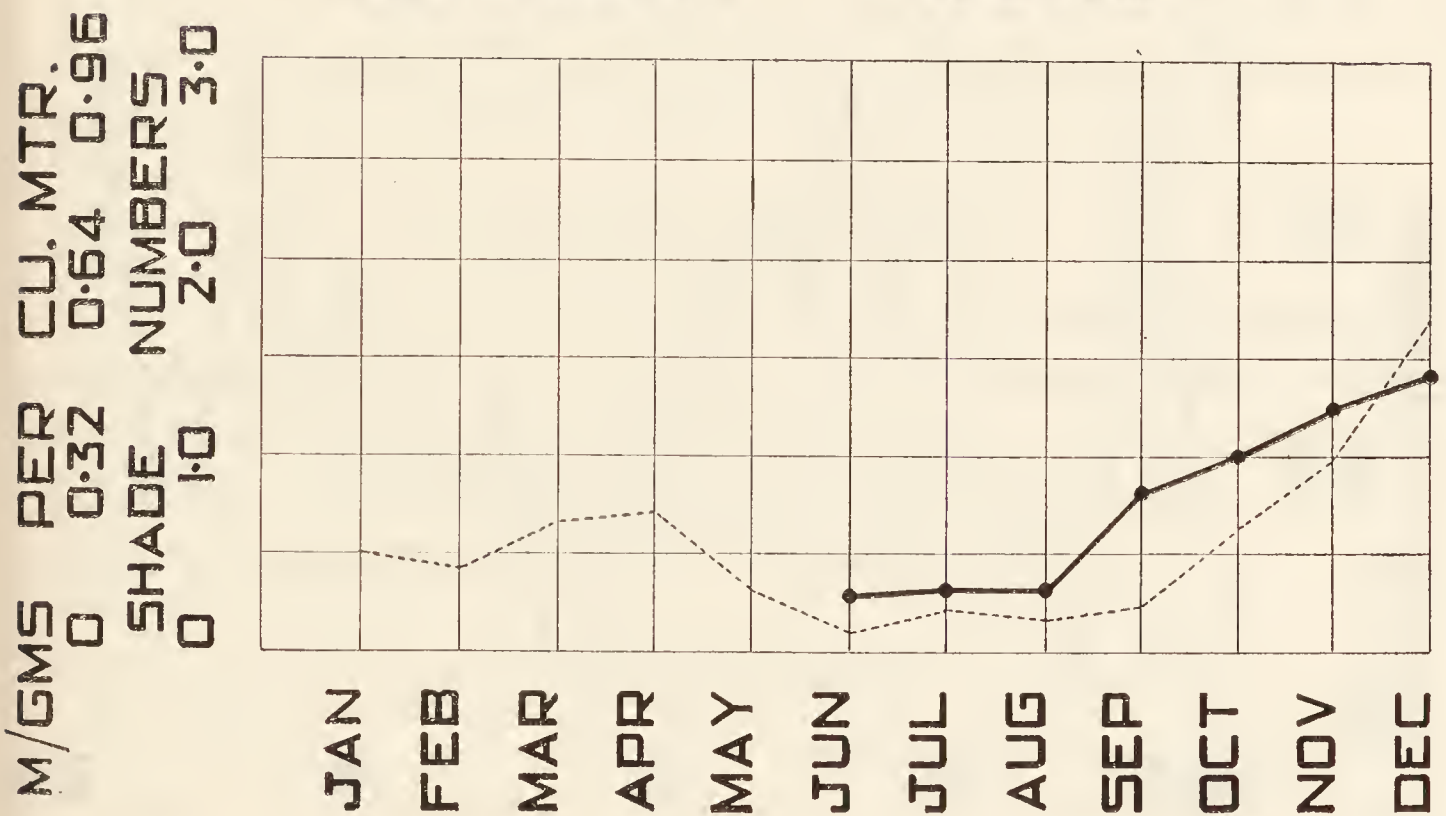
GRAPH 5.

BELMONT ROAD



GRAPH 6.

BELMONT ROAD



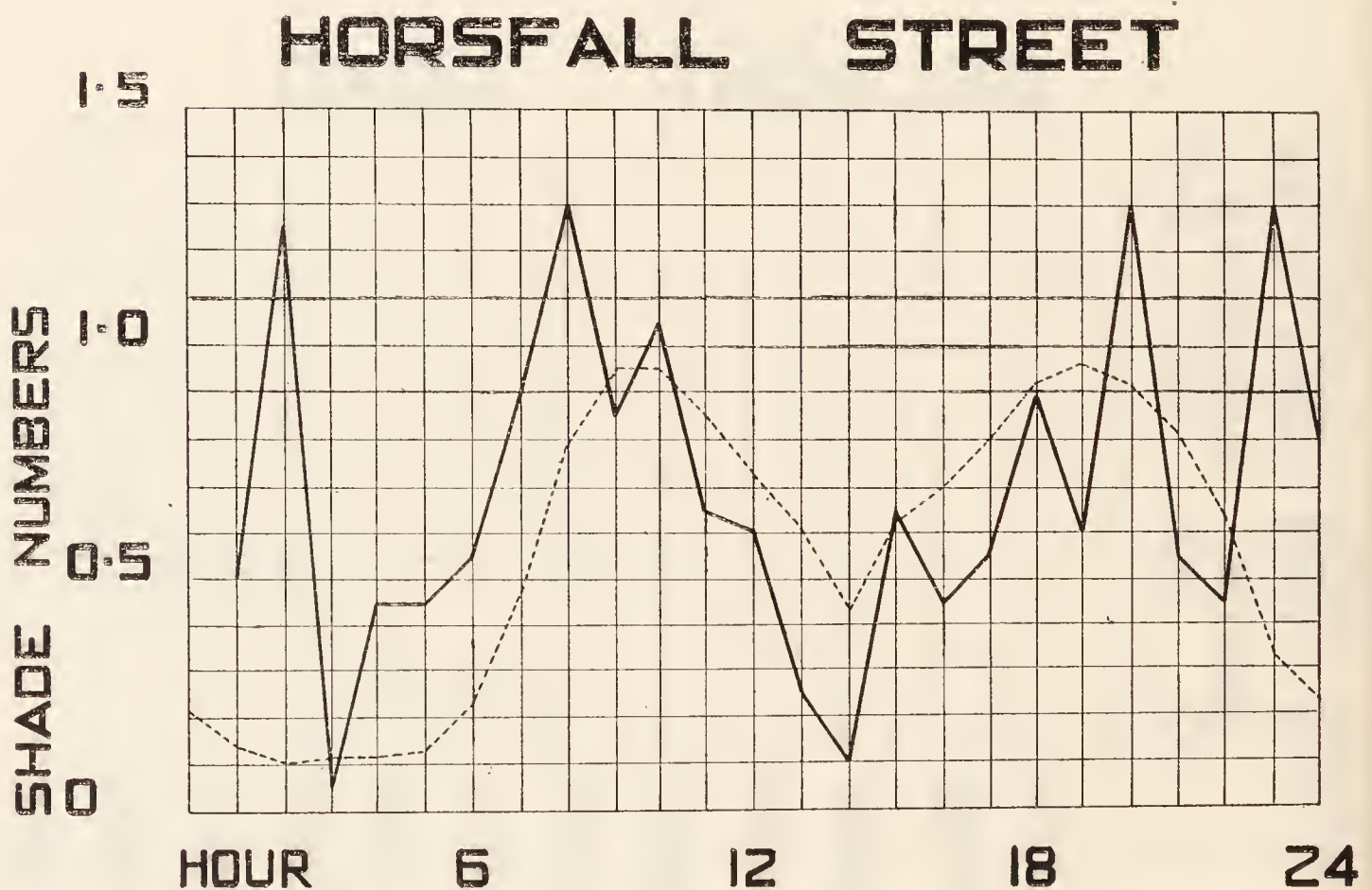
In order to record and plot the extent of drifting pollution for all areas of the City, it is anticipated that some ten or twelve sites having these automatic filters would be necessary.

During the early part of 1949, snap readings were taken in different parts of the City for various purposes. One series in particular was to discover the condition of the atmosphere in the Dingle area in close proximity to the railway, docks and a Corporation Destructor.

The following graph shows the results obtained, and the results may be compared with average conditions for the City centre during 1948, the curve for which is superimposed.

The variations in recorded pollution are to be expected in an area of this kind particularly on account of the movement of railway shunting engines.

GRAPH 7.



SANITARY ADMINISTRATION.

During the year the district sanitary inspectors made 216,217 inspections and visits for the investigation and suppression of nuisances. The total number of nuisances reported was 81,149.

Complaints in many cases were made at the department only after repeated requests addressed to the persons causing or permitting the nuisance, or to the owner or agents of property, had been ignored. A great deal of the time of the inspectors is taken up by these special investigations.

Requests to examine important public buildings and offices, as well as dwelling-houses of high rateable value are numerous, and the application of the smoke test has in many cases brought to light defects in the drainage system of such premises.

During the year, 39,326 complaints of nuisances were received as compared with 36,188 the previous year.

The number of notices served for the abatement of nuisances was 29,058 informal, and 34,014 statutory, 933 of the latter being served for the provision of dustbins.

In 278 cases legal proceedings were instituted at the City Court for failing to comply with notices served by the department under the Public Health Act, 1936, and the Liverpool Corporation Act, 1921.

Departmental References.

The co-operation which the Public Health Department received from other departments of the Corporation is fully appreciated, and as a result many sanitary defects are observed, and at once dealt with by the department. The number of references so received was 4,912, whilst the number of references to other departments was 8,935.

Infected Houses.

The following table shows the number of houses visited where notifiable infectious diseases have occurred, with the number of visits

made by sanitary inspectors to these houses, and to houses where cases of non-notifiable infectious diseases have been reported to the Health Department by the Education Department :—

Number of investigations relating to cases of infectious disease	7,412
Number of inquiries regarding contacts of cases of infectious disease	225
Number of visits to infected houses	8,160
Number of visits to tuberculosis cases	1,236
Number of inquiries relating to suspected smallpox contacts	495

Drain Testing.

During the year, 1,589 drainage systems were tested, 218 by colour test of which 105 were positive and 113 negative, 452 by smoke rocket test, 184 were positive and 268 negative, 919 by smoke machine test, of which 468 were positive and 451 negative. Where defects have been revealed by these tests, repairs have been carried out. In the case of tests of large buildings and offices, as well as dwelling-houses of higher rateable value, the assistance of the City Engineer and Surveyor's Department has been utilised.

Factories and Workplaces Inspection.

Factories Act, 1937, and Public Health Act, 1936.

All factories and workplaces are visited by inspectors appointed under the Act, the various premises being grouped in districts so as to secure the maximum number of visits in the minimum time.

Factories Act, 1937.

Part I of the Act.

Prescribes particulars of the administration of the Act at the request of the Ministry of Labour and National Service. (Form 572 revised.)

1. INSPECTIONS for purpose of provisions as to health (including inspections made by the Sanitary Inspectors):—

Premises. (1)	M/c. Line No. (2)	Number on Register. (3)	Inspec- tions. (4)	Written Notices. (5)	Occupiers prosecuted. (6)	M/c. Line No. (7)
(i) Factories in which Sections 1, 2, 3, 4 and 6 are to be enforced by Local Authorities	1	2,724	2,487	246	—	1
(ii) Factories not included in (i) in which Section 7 is enforced by Local Authority	2	2,625	6,483	274	—	2
(iii) Other premises in which Section 7 is enforced by the Local Authority (excluding outworkers premises) ...	3	18	66	2	—	3
TOTAL ...		5,367	9,036	522	—	

2. Cases in which DEFECTS were found.

Particulars. (1)	M/c. Line No. (2)	Number of Cases in which Defects were found.				Number of Cases in which Prosecu- tions were instituted. (7)	M/c. Line No. (8)
		Found. (3)	Remedied. (4)	To H.M. Inspector. (5)	Referred By H.M. Inspector. (6)		
Want of cleanliness (S.1)	4	119	114	13	6	—	4
Overcrowding (S.2) ...	5	—	—	3	—	—	5
Unreasonable tempera- ture (S.3)	6	6	6	—	3	—	6
Inadequate ventilation (S.4)	7	2	2	3	1	—	7
Ineffective drainage of floors (S.6)	8	1	1	—	—	—	8
Sanitary Conveniences (S.7)—							
(a) Insufficient ...	9	88	78	—	3	—	9
(b) Unsuitable or defective ...	10	399	382	—	25	—	10
(c) Not separate for sexes	11	11	7	—	2	—	11
Other offences against the Act (not including offences relating to outwork)	12	50	47	50	2	—	12
TOTAL ...	60	676	637	69	42	—	60

Part VIII of the Act.

Outwork.

(Sections 110 and 111)

Nature of Work.	M/c. Line No.	No. of out- workers in August list required by Section 110(1)(c).	No. of cases of default in sending lists to the Council.	No. of prosecu- tions for failure to supply lists.	Section III.		Prosecu- tions.	M. Line No.
					No. of instances of work in unwhole- some premises.	Notices served.		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Wearing apparel— Making, etc.	13	216	—	—	—	—	—	13
TOTAL ...	70	216	—	—	—	—	—	70

Outworkers, Sections 110 and 111.

In accordance with the provisions of the Act, outworkers' returns are received twice yearly, and the premises referred to in the returns are visited to ascertain whether work is carried on in any place which is, in the opinion of the local authority, injurious or dangerous to the health of persons employed therein:—

The following statement shows the work undertaken during the year:—

Employers failing to keep list	—
Notices served for failing to keep or send list	—
Prosecutions for failing to send list	—
Number of outworkers' returns referred to M.O.H. of dis- tricts outside City	130
Number of outworkers' returns received from other districts	17
Number of visits to premises	278
Number of Notices served	—
Number of outworkers' returns received	380
Number of instances of employment in unwholesome premises	—

Offensive Trades.

There were on the register of offensive trades in the City at the end of the year 73 businesses, which is the same as at the end of the preceding year. During the year, consent to establish the following offensive trades was granted:—

Soap Boiler	...	...	...	...	1
Rag and bone dealer	...	...	...	...	1

Nature of Business.						Trade.
Blood boilers	...	...	...	...	...	—
Blood driers	...	...	...	...	...	—
Bone boilers	...	...	...	...	...	2
Fat extractors	...	...	...	...	...	10
Fat melters	...	...	...	...	...	7
Fellmongers	...	...	...	...	...	5
Glue makers	...	...	...	...	...	—
Gut scrapers	...	...	...	...	...	5
Rag and bone dealers	...	...	...	...	...	30
Size makers	...	...	...	...	...	—
Soap boilers	...	...	...	...	...	7
Tallow melters	...	...	...	...	...	—
Tripe boilers	...	...	...	...	...	7
TOTAL						73

The number of inspections during the year	...	...	...	591
Number of special visits	...	...	...	13
Number of ordinary visits	...	...	...	342
Number of revisits	...	...	...	236
Number of applications to establish	...	...	...	2
Number of applications granted	...	...	...	2
Number of applications for renewal of consent	...	...	...	14
Number of offensive trades discontinued and removed from the register	...	...	...	2
Number of notices issued (informal)	...	...	...	20
Number of notices issued (statutory)	...	...	...	12
Number of nuisances found	...	...	...	44
Number of nuisances abated	...	...	...	39

Offices and Workplaces.

References have been frequently made to the fact that existing legislation as a means of securing satisfactory conditions affecting the health and welfare of persons employed in offices and workplaces is inadequate in several important respects.

This opinion is also expressed in the report issued in March, 1949, of a Committee of Enquiry under the chairmanship of Sir Ernest Arthur Gowers, G.B.E., K.C.B., which considered, among other matters, the statutory provisions relating to the health, welfare and safety of employed persons at places of employment other than those regulated under the Factories or Mines and Quarries Acts.

It is pointed out that so far as offices are concerned the powers of local authorities are confined to Sections 43/46 and 92 of the Public Health Act, 1936, which only refer to the provision and maintenance of sanitary conveniences and to such matters as ventilation, overcrowding, cleanliness and the elimination of noxious effluvia. These conditions, however, must be so bad as to be considered nuisances, or prejudicial to health, before action can be taken and, therefore, tend to be negative in character.

The suggestion is made that legislation containing obligatory and specific requirements would be an advantage in promoting a satisfactory standard of health and welfare for office workers, and the Factories Act, 1937, is quoted as a guide in this respect. Legislation based on this recommendation would no doubt include certain essential factors for which there is no power of enforcement at present, viz., provision as to lighting, temperature, washing facilities, etc.

Owing to the war, damage by enemy action in this city and the subsequent restriction on building labour and material, a relatively small amount of work has been carried out in office buildings. Since 1939 there has also been a distinct change in the character of the personnel in offices. Many business firms which only employed males a decade ago now employ a substantial proportion of female assistance. This change has caused many problems and difficulties in the older business buildings, particularly as regards sanitary accommodation and toilet facilities generally.

In view of these circumstances an effort has been made during the year to rectify many of the above-mentioned conditions, and in cases where power of enforcement was lacking, the Inspectors have recourse to persuasion in order to obtain improved lighting, washing facilities, heating arrangements and satisfactory canteen facilities.

7,989 visits were made to the 3,549 offices and workplaces on the register during the year. A total of 1,724 defects were found and an analysis of these is set out overleaf:—

Public Health Act, 1936.

Offices and Workplaces	Defects	
	Reported	Remedied
<i>Sanitary Accommodation—Section 46</i>		
Not provided for males	39	34
Insufficient for males	16	13
Not provided for females	78	73
Insufficient for females	28	28
Separate means of approach not provided	22	20
Screens, doors, fasteners, etc., defective or not provided... ..	80	77
Lighting inadequate	34	29
Ventilation—inadequate	133	122
—absence of intervening space	99	90
Floors, basins, seats, walls, etc., dirty or defective	365	353
Urinals—defective, insanitary	12	12
—absence of, or insufficient flush	2	2
<i>Nuisances—Section 92. Subsection 1(a.b.c.f)</i>		
Nuisances reported	454	432
<i>Sub-section 1(e).</i>		
Ventilation insufficient or not maintained	82	80
Cleanliness not observed	297	292
Rooms overcrowded	7	7
Not kept free from noxious effluvia... ..	—	—

Catering Establishments.

The prominence given to the need for taking all necessary measures to promote and maintain a high standard of hygiene in catering establishments, and the importance of personal cleanliness where food handling is concerned has justified the vigorous and persistent action that has been pursued by the Sanitary Inspectors during the past four years. The effectiveness of the measures taken in this direction is reflected in the marked improvement in the environmental conditions in this class of business and the fact that no cases of food poisoning were recorded during the year in which the source was traced to catering establishments in the city.

The inculcation of the habit of personal cleanliness, however, is a matter which will only be effected gradually, and the education and training of the food handler is of the first importance in this respect. This is primarily the responsibility of the managements of catering businesses, and it is vital to the success of any clean food campaign that all concerned in the handling of food should be fully aware that clean hands and good habits are axiomatic to the maintenance of a high standard of food hygiene.

The object of the department to see that all cafés, café kitchens and snack bars are provided with lavatory basins fitted with an adequate supply of running hot water laid on has been achieved, and the maintenance of adequate supplies of clean towels and soap is strictly enforced. Notices which indicate that employees must wash their hands after the use of the sanitary convenience have been posted in all catering establishments either in or near the compartment. Although it is possible to ensure that employees are provided with the necessary facilities for cleanliness, the habit of thoughtless and careless persons in promiscuous spitting, finger licking, smoking and coughing and sneezing is difficult to control, even in cases where supervision by the management is strict.

There is evidence to show that the act of washing the hands after the use of the sanitary convenience is becoming regular practice, and by and large there is a more intelligent awareness on the part of food handlers as to the necessity of personal cleanliness in food premises.

Experience has also proved that good environmental conditions foster clean habits, and there is no doubt that bright, well-planned and ventilated kitchens and dining-rooms have a good psychological effect on the occupants. It has been observed that workers employed in restaurants, cafés, and canteens which possess food preparation rooms answering to this description are noticeably cleaner in their persons and clothing.

The Inspectors have secured improved environmental conditions which have frequently involved the entire rebuilding and reconditioning of kitchens and dining-rooms incurring heavy expenditure. Fifty premises have been dealt with in this manner, and in many others substantial structural improvements and the renewal of equipment and fittings have been carried out.

This work, so far as the provisions of Section 13 of the Food and Drugs Act, 1938, permit, has been accomplished in part, by means of the service of statutory and informal notices. In cases where these powers have been found to be inadequate, it has been necessary for the Inspectors to convince caterers that matters such as glazed tiled wall surfaces, impervious floors, good lighting, running hot water, refrigerators and mechanical washing machines, etc., are essential to the maintenance of a high standard of hygiene.

In view of the diverse character of the catering establishments in the city it has not been considered practicable or advisable to adopt a rigid code of practice, but the standard required by the department is of such a high character that in 33 cases the owners or occupiers have been either unwilling or unable to comply with the demands of the Inspectors and the businesses have in consequence discontinued or transferred to more suitable premises.

The arrangements made with the Ministry of Food that the granting of licences for new establishments is subject to the premises and equipment being approved for the purpose by this department, is operating satisfactorily, and is of great assistance in securing hygienic conditions at the commencement of business.

In the case of an application to the local food office for a licence to open a catering establishment, the premises are examined by an Inspector

and, where necessary, a schedule of work, which must be executed, is forwarded to the applicant. Upon the work being completed to the satisfaction of the department, notification is given to the Food Executive Officer, who then releases the necessary licence.

During the year, 3,731 visits were made to 448 catering establishments and the details of the Inspections are set down hereunder:—

Number of occasions in which restaurants and cafés were						
found incorrect	...	...	...	...	...	345
Notices issued—Public Health Act, 1936—						
to occupier	...	...	...	...	...	108
to owners	...	...	...	...	...	110
Notices issued—Food and Drugs Act, 1938—						
to occupier	...	...	...	...	...	320
to owner	...	...	...	...	...	192

Restaurants and Cafes.	Defects.	
	Reported.	Remedied.
<i>Food and Drugs Act, 1938, Section 13.</i>		
(a) Sanitary conveniences, dustbin, etc., within or communicating direct	21	17
(b) Drain inlet within or communicating direct	22	20
(c) Dining rooms (Walls, ceilings, floors, etc., in disrepair).	340	304
Kitchen (Walls, ceilings, floors, etc., in disrepair).	206	177
Food store (Walls, ceilings, floors, etc., in disrepair.)	85	77
(d) Dining rooms (Walls, ceilings, windows, etc., require cleansing.)	169	142
Kitchen (Walls, ceilings, windows, etc., require cleansing.)	294	260
Food store (Walls, ceilings, windows, etc., require cleansing.)	59	50
(e) Room used as a sleeping apartment or communicating direct...	—	—
(f) Dining room (Ventilation not provided and maintained.)	13	9
Kitchen (Ventilation not provided and maintained.)	63	58
Food store (Ventilation not provided and maintained.)	26	21
(g) Accumulation of refuse or filth within the rooms	28	28
Floors not kept in a clean condition	11	11
(h) Cleanliness of persons employed in rooms not observed	2	2
Cleanliness of articles, utensils and apparatus not observed	66	64
(i) Suitable and sufficient washing facilities not provided... ..	137	134
Supply of soap and towels insufficient or not provided... ..	4	4
Supply of hot and cold water insufficient or not provided	102	98
<i>Sub-Section 2 (b).</i>		
Failure to prevent risk of contamination of food	139	136
Cutlery, crockery and other accessories, cleanliness not observed...	3	3
Equipment defective, worn, requiring repair or renewal	148	136
Swill bin accommodation unsatisfactory	28	26
Storage of food ; inadequate, unsatisfactory accommodation	54	41
Handling of food ; unsatisfactory methods used	6	6
<i>Public Health Act, 1936, Section 89.</i>		
(Sanitary accommodation.)		
Not provided for males	5	1
Insufficient for males	2	—
Not provided for females	6	4
Insufficient for females	2	1
Separate means of approach not provided	1	1
Screens, doors, fasteners, etc., defective or not provided	18	14
Lighting inadequate	3	1
Ventilation—		
Inadequate	8	5
Absence of intervening space	10	8
Floors, basins, seats, walls, etc., dirty or defective... ..	87	85
Flush to water closets defective or inadequate	18	17
Urinals—		
Defective, insanitary	—	—
Absence of or insufficient flush thereto	4	3
TOTAL	2,190	1,964

Licensed Premises.

Progress in the reconditioning and modernising of licensed premises during the year, particularly with regard to sanitary accommodation, has not been encouraging, and in 295 cases separate sanitary conveniences are not provided for female persons frequenting the premises.

The main reason for this situation is the difficulty experienced in obtaining the necessary civil building licences where alterations and improvements are concerned in premises of this character. A further cause for delay is due to the appreciable number of public-houses in which the floor area is so restricted that an extension of the building is the only practicable method of providing additional sanitary accommodation, and owing to the fact that the adjoining property comprises dwelling-houses which are protected by statute or business premises under leasehold agreements, possession cannot be obtained in order to carry out the necessary reconstruction. Many licensed premises are also situated in areas scheduled under the Housing Acts or affected by redevelopment schemes.

HYGIENE IN LICENSED PREMISES.

The observance of a satisfactory standard of hygiene in licensed premises should be a relatively simple matter compared with the care that has to be taken against the possible sources of contamination in other types of catering establishments in which food is prepared and served. As beer or liquor is delivered from the breweries and stored in closed containers there is little risk of contamination, providing the pipe lines are constructed of suitable material and kept in a clean condition.

The important factor is to endeavour to secure the service of sterile glasses to the customers and any excuse that this is not possible during the "rush hours" cannot be entertained, no more than imperfectly washed and soiled eating utensils would be accepted in a restaurant during the busy mid-day period.

The administration and organisation that might be necessary to see that drinking utensils are cleansed thoroughly at all times is the responsibility of licensees or their employing companies.

Facilities for maintaining a service of clean glasses are readily available in this city. All licensed houses are now provided with running hot water supplied over bar sinks, and mechanical glass washing machines may be obtained which have proved to be speedy and satisfactory.

Certain detergent preparations which are now being sold for the purpose of being added to the water in the rinsing sinks are claimed to have disinfecting properties and to be non-toxic, non-irritant and tasteless and do not affect the "head" on beer.

In view of the fact, however, that so far as this area is concerned, ample supplies of hot and cold water can be easily laid on to the sinks, it is considered that it would be better to abolish the use of the sink plug altogether and require all glasses to be washed in running hot water. This practice, which has been advocated by the department for some time, was checked by Inspectors, who kept observations incognito during the evenings in 51 licensed premises in the central area, when it was observed that the glasses were washed under running water in 37 cases. In 8 cases, where the glasses were seen to be washed in the rinsing sink, it was found that disinfectant detergents had been added to the water. Observation has shown that the standard of glass washing in public-houses has improved considerably during the past five years. This may be due to the following reasons:—

- (1) An increase in the number of assistants.
- (2) Replacement of part-time workers with full-time employees.
- (3) A personal interest and pride which is being taken by licensees in respect to their houses.
- (4) The efforts of the Sanitary Inspectors in pointing out the necessity of thorough cleanliness in food premises.
- (5) No shortage of glasses.
- (6) The increasing demand by customers for clean glasses.

No trace of lipstick was seen on the many hundred of glasses examined during the year and licensees stated that it is unusual to find this material on used glasses to-day, whereas three or four years ago it was common experience, but no opinion was expressed as an explanation of this change.

4,135 visits were made to licensed premises during the year, and appropriate notices were issued in cases where the undermentioned defects were observed :—

Licensed Premises.	Defects.	
	Reported.	Remedied.
<i>Food and Drugs Act, 1938. Section 13 (1).</i>		
(a) Sanitary conveniences, dustbin, etc., within or communicating direct	41	35
(b) Drain inlet within or communicating direct	31	21
(c) Bars and Parlours (Walls, ceilings, floors, etc., in disrepair.)	347	328
Beer cellars... .. (Walls, ceilings, floors, etc., in disrepair.)	413	389
(d) Bars and parlours (Walls, ceilings, windows, etc., require cleansing.)	336	326
Beer cellars... .. (Walls, ceilings, windows, etc., require cleansing.)	410	379
(e) Room used as a sleeping apartment or communicating direct...	—	—
(f) Bars and parlours (Ventilation not provided and maintained.)	4	3
Beer cellars... .. (Ventilation not provided and maintained.)	4	3
(g) Accumulation of refuse or filth within the rooms	88	88
Floors not kept in a clean condition	10	10
(h) Cleanliness of persons employed in rooms not observed	—	—
(i) Cleanliness of articles, utensils and apparatus not observed	49	49
(i) Suitable and sufficient washing facilities not provided	1	1
Supply of soap and towels insufficient or not provided... ..	—	—
Supply of hot and cold water insufficient or not provided	59	59
<i>Sub-Section 2 (b).</i>		
Failure to prevent risk of contamination of food	40	40
Beer pipes (Defective, worn, or cleanliness not maintained.)	—	—
Stillage (Defective, worn, or cleanliness not maintained.)	—	—
Beer engine (Defective, worn, or cleanliness not maintained.)	1	1
Drip trays (Defective, worn, or cleanliness not maintained.)	—	—
Drainers, trays, sinks (Defective, worn, or cleanliness not maintained.)	3	3
Waste beer vessels uncovered or in an unsatisfactory condition	9	—
Filters and funnels in an unsatisfactory condition... ..	2	2
<i>Glasses—</i>		
Not served in a clean condition	—	—
Unsatisfactory method of cleansing	1	1

Licensed Premises (continued).	Defects.	
	Reported.	Remedied.
<i>Public Health Act, 1936, Section 89.</i> (Sanitary Accommodation.)		
Not provided for males	6	6
Insufficient for males	38	36
Not provided for females	77	16
Insufficient for females	5	5
Separate means of approach not provided	39	34
Screens, doors, fasteners, etc., defective or not provided	121	109
Lighting inadequate	3	2
Ventilation—		
Inadequate	41	29
Absence of intervening space	140	124
Floors, basins, seats, walls, etc., dirty or defective	323	316
Flush to water closets defective or inadequate	28	27
Urinals—		
Defective, insanitary	75	71
Absence of or insufficient flush thereto	72	62
TOTAL	2,817	2,575

Bakehouses.

The number of bakehouses in operation is 322, of which 26 are basement bakehouses.

During the year, 1,183 visits were made to bakehouses and 82 notices issued under the Food and Drugs Act, 1938, Section 13, details of which are as follows:—

Food and Drugs Act, 1938, Section 13.

Bakehouses.	Defects.	
	Reported.	Remedied.
(a) Sanitary conveniences, dustbins, etc., within or communicating direct	9	8
(b) Drain inlet within the room	1	1
(c) Preparation rooms (Walls, ceilings, floors, windows and doors in disrepair).	232	214
Store rooms (Walls, ceilings, floors, windows and doors in disrepair).	37	33
(d) Preparation rooms (Walls, ceilings, doors, windows require cleansing).	216	199
Store rooms (Walls, ceilings, doors, windows require cleansing).	22	13
(e) Room used as sleeping apartment, etc.	1	1
(f) Preparation rooms (Ventilation inadequate or not maintained).	13	12
Store rooms (Ventilation inadequate or not maintained.)	9	6
(g) Accumulation of filth or refuse in the room	17	17
Floor not kept in a clean condition	20	20
(h) Cleanliness of persons employed in rooms not observed	12	12
Cleanliness of articles, utensils and apparatus not observed	61	56
(i) Supply of soap and towels insufficient or not provided... ..	41	41
Suitable washing basins not provided	68	67
Supply of hot and cold water insufficient or not provided	87	84
<i>Sub-Section 2.</i>		
(b) Failure to prevent risk of contamination of food	127	114
TOTAL	973	898

Basement Bakehouses.

Section 54 of the Factories Act, 1937, requires the local authority to review the Certificates of Suitability granted in respect of basement bakehouses in the year beginning at the date of the commencement of the Act and every fifth succeeding year after that year. Owing to the outbreak of war, no action was taken by the local authority during the year commencing July, 1938, and as the war was still in progress at the beginning of the second quinquennial period, further action was delayed pending the cessation of hostilities.

At the beginning of the third quinquennial period, an examination of these premises was made, and on the 5th January, 1949, a report was submitted to the City Council on the conditions existing in the 32 bakehouses then in operation, when it was resolved—

- (a) that in the case of 6 bakehouses the Certificates of Suitability should cease to have effect six months after 5th January, 1949;
- (b) in the case of the remaining 26 bakehouses the Certificates of Suitability should cease to have effect two years after 5th January, 1949.

The respective occupiers were given notice of the withdrawal of the Certificates.

An appeal against the decision of the Council was lodged in the case of one of the bakehouses. The appeal was heard on 21st February, 1949, before the Stipendiary Magistrate, and was dismissed after he had visited the premises concerned.

The six bakehouses referred to in paragraph (a) are now closed.

Bread Vans.

Vehicles in which bread is conveyed are inspected with regard to cleanliness, at bakehouses, unloading at retail shops and during the course of delivery to customers, and the marked improvement in the standard of cleanliness which was observed last year has been maintained during 1949. The desired standard with regard to the transport of bread is attained with difficulty owing to the number of worn-out vehicles in use.

Several new vehicles have been supplied during the year but the delivery of new bread vans to bakers and bread distributors from the manufacturers is still unequal to the demand, and wherever possible aged vans have been repaired and lined throughout with non-corrodible metal pending an improvement in the supply of new vehicles.

Number of bread vans inspected	...	...	...	517
Number of bread vans found dirty	...	...	...	2
Number of dirty vans re-inspected and found clean	...	...	...	2

Fish Frying Establishments.

There are 406 fish friers operating in the city, and 1,978 visits were made during the year. With the object of securing a satisfactory standard of hygiene, the attention of friers has been directed by the inspectors

to the hygienic advantages in the use of modern methods of construction, materials and equipment in premises of this character. As the result of this action many premises have been improved during the year by the construction of tiled or glazed wall surfaces, jointless flooring, the installation of modern ranges, service counters and ventilating equipment. Control over new business is satisfactorily achieved by arrangement with the Ministry of Food. In cases where the Ministry has approved the granting of a licence to establish a fish frying establishment, the premises are examined by a Sanitary Inspector and the applicant served with a schedule of works which must be executed before the business can be commenced.

Fish Friers.	Defects.	
	Reported.	Remedied.
<i>Food and Drugs Act, 1938. Section 13 (1).</i>		
(a) Sanitary convenience, dustbin, etc., within or communicating direct	37	34
(b) Drain inlet within or communicating direct	4	4
(c) Preparation room (Walls, ceilings, floors, windows, etc., in disrepair.)	297	278
Shop (Walls, ceilings, floors, windows, etc., in disrepair.)	215	215
(d) Preparation room (Walls, ceilings, windows, etc., require cleansing.)	279	267
Shop (Walls, ceilings, windows, etc., require cleansing.)	123	106
(e) Room used as a sleeping apartment or communicating direct...	—	—
(f) Preparation room (Ventilation not provided and maintained.)	10	9
Shop (Ventilation not provided and maintained.)	3	2
(g) Accumulation of filth or refuse within the rooms	5	5
Floors not kept in a clean condition	13	13
(h) Cleanliness of persons employed in rooms not observed ...	7	7
Cleanliness of articles, utensils and apparatus not observed ...	18	17
(i) Suitable and sufficient washing facilities not provided... ..	77	76
Supply of hot and cold water insufficient or not provided ...	50	50
Supply of soap and towels insufficient or not provided... ..	1	1
<i>Sub-Section 2 (b).</i>		
Failure to prevent risk of contamination of food	89	84
Food refuse accommodation unsatisfactory... ..	1	1
Storage of food, unsatisfactory accommodation	28	21
Handling of food, unsatisfactory methods used	—	—
Equipment unsatisfactory, requiring repair or renewal	122	114
<i>Public Health Act, 1936.</i>		
Nuisances reported	191	178
... ..		
TOTAL	1,570	1,482

Furniture Removers.

105 visits were made to the premises of furniture removers, and 147 vans were inspected. All were found to be in a clean condition.

Employment Agencies.

These premises are controlled by byelaws made under the Liverpool Corporation Act, 1927, and visits were made from time to time to ascertain that the requirements of the byelaws are being carried out. There are at present 25 licensed employment agencies on the register.

Rag and Flock Acts, 1911 and 1928.

There is one factory in which rag flock is manufactured in this city. Three visits have been made and four samples of rag flock have been taken, which were in accordance with the standard of cleanliness required by the rag flock regulations.

37 visits have been made to premises where rag flock was used; 38 samples were taken.

The reports of the City Analyst on the 38 samples of rag flock submitted for analysis used in upholstery and bedding were as follows:—

- 2 contained under 5 parts of chlorine per 100,000 parts of flock.
- 10 contained 5 and under 10 parts of chlorine per 100,000 parts of flock.
- 14 contained 10 and under 15 parts of chlorine per 100,000 parts of flock.
- 8 contained 15 and under 20 parts of chlorine per 100,000 parts of flock.
- 2 contained 20 and under 24 parts of chlorine per 100,000 parts of flock.
- 2 contained 25 and under 30 parts of chlorine per 100,000 parts of flock.

Administration of the Shops Acts, 1912 to 1938, and the Young Persons (Employment) Act, 1938 (Part I).

ADMINISTRATION IN PRACTICE.

It has always been the practice in this City to administer the provisions of the Shops Acts, and the Regulations made thereunder, in such a manner that full effect is given to such legislation. Applying as they

do to such a wide variety of businesses, and regulating the working condition of great numbers of adults and young persons employed in the distributive trades in varying types of premises, these measures, which affect not only the daily life of persons employed in the various trades, but also to some extent the general public, reveal complexities not always easily understood by shopkeepers who are required to give effect to their requirements.

It is essential, therefore, that the Inspectorate concerned with enforcement of the Shops Acts should not only effectually carry out the legal duties specifically laid down by the Acts, but must also play their part in promoting efficient local public service by informing and advising shopkeepers who may not clearly understand their obligations under the law. As Shops Inspectors are encouraged to take this view and render such assistance as part of their normal work, administration has been more effective, and the majority of shopkeepers, desiring to observe the law, consult Inspectors when in doubt. The result of this practice is noticed in the diminution of the number of serious offences, which in past years necessitated proceedings being taken frequently in the Court, but which are now comparatively few in number.

In the case of any contravention or failure to comply with the provisions of the Shops Acts or the Young Persons (Employment) Act, 1938, other than contraventions in respect of which action by the service of a statutory notice is prescribed, it is the custom to issue a warning letter in respect to a first offence, requesting the offender to take the necessary steps to comply with all the requirements of the Acts and Regulations made thereunder so as to avoid the necessity for further proceedings. In the great majority of cases this procedure is sufficient to ensure compliance with the statutes and, except for occasional offences in respect to closing hours in small shops and for failure to exhibit prescribed notices in shops, regular visitation of shops proves that a satisfactory standard of compliance with the Shops Acts is generally maintained throughout the City.

For the purpose of keeping a permanent record of all the matters affected by statute in all premises to which the various Acts relate, a card register is kept giving full particulars as to the occupier, nature of business, staff employed, steps taken to comply with requirements,

dates of Inspectors' visits, the nature of contraventions found, together with the action taken in connection therewith. Owing to changes which occur in the occupation of shops, or in the numbers or composition of staff employed and the nature of trade carried on, it is essential that the record should be kept up to date by periodical routine visitation to ensure that the law is carried out in a satisfactory manner.

In addition to their duties under the Shops Acts, Shops Inspectors are required to take all the necessary steps to ensure that the premises they visit satisfy the appropriate requirements of the Public Health Act, 1936, and Section 13 of the Food and Drugs Act, 1938. In accordance with the division of duties in the department, Shops Inspectors visit places of entertainment, clubs, meeting halls, racing tracks and sports grounds.

ENFORCEMENT AND ROUTINE INSPECTION.

Apart from any special visits which may be made to investigate matters arising from complaints, of which there are comparatively few, or to deal with various other matters appearing from time to time, enforcement of the provisions of these enactments has been maintained by systematic routine inspection of shops and other premises to which the Acts relate, by Inspectors engaged full time in carrying out all the duties under the Acts. These include, generally, provisions relating to closing hours of shops, conditions of employment of shop assistants and young persons, and the arrangements in shops for maintaining the health and comfort of shop workers, together with provisions of the Act of 1938 as to the employment of young persons in various occupations not regulated by the Shops Acts or the Factories Acts. All matters requiring the attention of the occupier or the owner of the premises are immediately brought to their notice so that appropriate steps may be taken without delay, to make the premises comply in all respects with the provisions of the Shops Acts, or other enactments with which the Shops Inspector is concerned.

Premises to which the Shops Acts relate include retail shops, wholesale shops, and any warehouse occupied for the purposes of his trade by any person carrying on any retail trade or business or by any wholesale dealer or merchant. Premises other than shops in which retail trade or business is carried on or about the business of which young persons are

employed also come within the scope of the Shops Acts. In the case of employments under the Act of 1938 visits are made to various types of premises in or from which young persons work as messengers, in the collection or delivery of goods, in the reception of guests or members, in the operation of a hoist or lift, and in the operation of cinematograph apparatus.

WELFARE ARRANGEMENTS.

Strict attention has been given to the provisions of the Shops Act, 1934, with respect to the arrangements for the health and comfort of shop workers, and statutory notices have been served on the occupiers or owners of shops in all cases where the Inspector reported that a satisfactory standard was not maintained. The contraventions found to exist were mainly those relating to the provision of suitable and sufficient sanitary conveniences and washing facilities, due either to a complete absence of such arrangements, as for instance, in the case of shops employing assistants where none were employed previously, or due to unsuitable accommodation by reason of additions to, or changes in, the staff employed. Other reasons for taking action included unsuitable structural arrangement of existing accommodation and defects found in the fittings provided.

In the main, notices have been complied with in a short time, and except in some cases where the preparation of plans and application for building licences have accounted for some delay, the necessary improvements have been carried out except in one instance, without having to resort to taking proceedings in the Court.

In the case referred to, a notice was served upon an owner, under Section 10 of the Shops Act, 1934, to "Take out the foul and defective long hopper water closet basin and provide and fix in lieu thereof a suitable pedestal washdown water closet basin complete with hinged seat." The owner replaced the defective long hopper basin with one of a similar kind, which is considered an obsolete and insanitary type, and proceedings were taken against him for failure to comply with the notice. Counsel for the defence submitted that the fixing of a new long hopper basin satisfied the requirements as to a suitable and sufficient sanitary convenience.

The Deputy Stipendiary Magistrate, however, held that the terms of the notice had not been complied with and convicted the defendant; a penalty of five pounds was imposed and an Order made for the work specified to be carried out within fourteen days. Notice of appeal against this decision was given, but the appeal was not proceeded with and the owner complied with the Order. As this was the first occasion on which it was found necessary to take proceedings in the Court in respect to failure to maintain suitable welfare arrangements since the Act came into force in December, 1934, owners and occupiers are to be commended on their satisfactory compliance with such important provisions.

EMPLOYMENT OF SHOP ASSISTANTS AND YOUNG PERSONS.

Particular care has been exercised by Inspectors in dealing with the provisions of the Shops Acts relating to conditions of employment, holidays and meal times for assistants and young persons, and hours of employment of young persons, to ascertain that employers understand their responsibilities in these matters. Any required information is given to shopkeepers at the time of routine visitation, when any infringements in the matter of the exhibition of prescribed notices as to employment or the keeping of records of hours of employment are noted and reported for consideration as to the appropriate action. Details as to holidays and hours of employment are obtained from occupiers and persons employed and are checked against records and notices by Inspectors, who take other steps, by re-visits or observation, to make sure that the law is observed. On the whole, working hours are less, and conditions of employment are improved, compared with the pre-war period, and the weekly hours of employment of young persons in most cases are below the normal maximum of 44 hours in the under 16 years age group, and 48 hours in the 16 to 18 years age group, prescribed by the Shops Act, 1934.

The offences reported during the year related chiefly to failure to exhibit prescribed notices in shops and to keep records of employment, due in most cases to carelessness, but seldom repeated after a warning by letter.

VISITATION ON THE WEEKLY HALF-HOLIDAY, IN THE EVENING AND ON SUNDAY.

Regular visits are made to shops on the day of the weekly half-holiday, in the evening and on Sunday with respect to the closing hours, and at

the same time observations are made to note whether shop assistants and young persons are employed in accordance with the provisions of the various Acts, including the requirements as to half-holiday for shop assistants from 1.30 p.m. and the additional compensatory holidays for persons who are employed on Sunday.

The shops found open on the weekly half-holiday are small general shops allowed to carry on certain transactions on that day in accordance with the schedule of exemptions. Such shops do not, as a rule, employ assistants, and the few offences reported are in respect of failure to observe the closing hour for non-exempted goods or to exhibit the prescribed notice as to permitted sales after 1 p.m. In the larger shops which are closed entirely at 1 p.m., very few offences are found and shop assistants are very rarely seen to be employed after 1.30 p.m., at which time their weekly half-holiday must commence.

Evening inspections are chiefly concerned with closing of shops, and as most shops close before the statutory closing hour, employment of shop assistants and young persons to late hours rarely occurs, except in a few shops where the sale of refreshments is carried on and adult assistants work in relays.

As a result of voluntary earlier closing, reports of offences as to evening closing hours are few in number, and even during the winter period, when the general closing hour, under Defence Regulations, is 6 p.m., many shops are closed before that hour.

On Sunday many mixed shops are found open for several hours during the early part of the day, when brisk trade is carried on in transactions exempted from the closing provisions of the Shops (Sunday Trading Restriction) Act, 1936, but most of these shops close altogether shortly after mid-day. There is, however, a tendency for unlawful sales to take place on Sunday in some mixed shops, although not to any great extent, together with failure to exhibit the prescribed notice as to permitted sales on Sunday. Inspectors examine the Record of Sunday Employment of persons engaged in shops visited, together with the Record of Hours worked by young persons who may be employed on Sunday, but apart from technical offences relating to failure to enter hours of employment in the records, it is seldom that persons are employed excessive hours or fail to

receive the holidays to which they are entitled. Strict attention is given to all these matters, and all offences are dealt with immediately either by warning letter in the first case or, occasionally, by proceedings in the Court for a further offence.

REPORT OF THE GOWERS COMMITTEE.

The First Interim Report (Cmd. 7105) of the Committee of Enquiry into the closing hours of shops; Health, Welfare and Safety in places not regulated by the Factories or Mines and Quarries Acts; and Hours of Employment of Young Persons, was presented to Parliament in April, 1947, and included recommendations to curtail general evening closing hours, reduce the number of exemptions from closing hours, and simplify the procedure for making orders by local authorities.

The Final Report of the Committee (Cmd. 7664) was presented in March, 1949, and included many recommendations to improve the law affecting Health, Welfare and Safety in Non-Industrial Employment, and Hours of Employment of Juveniles.

In addition to regulating the hours of employment of juveniles in shops, it is proposed to apply the law to juveniles in certain employments, hitherto unregulated, including those engaged in offices. In shops, offices and employments regulated by the Young Persons (Employment) Act, 1938, Part I, the proposed normal maximum hours are 45, and the Committee recommended that the local authorities which are to deal with health and welfare requirements, should also administer and enforce hours restrictions. The Committee does not consider that enforcement in these non-industrial occupations should be centralised, nor does it favour a proposal that this responsibility should be transferred from the Shops Acts Authorities to the local education authorities.

Recommendations were also made to increase the scope of health and welfare provisions now affecting shops and to extend such provisions to offices. Improvements in the present law affecting shops include provisions relating to cleanliness, supply of hot water, space, underground rooms and rooms without access to natural light, accommodation for clothing, seats for male persons, dangerous machinery, first aid, escape from fire and lifting of excessive weights by women.

The Committee recommended that enforcement of the health and welfare arrangements should remain a matter for local government and that sanitary authorities be responsible (except in London) for enforcement of all parts of the Shops Acts and of legislation now proposed. Also that local authorities be required to report annually on the administration of the Acts in their areas, and further, that Government departments be given supervisory (but not default) powers which might be exercised by the appointment of a small number of inspectors who would form a personal link between central and local authorities.

FOOD SHOPS.

Satisfactory progress has been made in securing an improvement in the general conditions affecting the storage and handling of food in shops, and enforcing generally the provisions of Section 13 of the Food and Drugs Act, 1938; shopkeepers, in the main, have readily co-operated in measures recommended by Inspectors to give full effect to the requirements of the Act, and to carry out suggestions to avoid the risk of contamination of food. It is difficult in some small shops, particularly general shops consisting only of a single room where all available space is taken up by mixed stock, to properly separate and protect food from non-food goods, so as to avoid risk of contamination. This matter, together with the long-standing practice in many shops of displaying food of a kind readily liable to contamination by intending customers, on counters and stands, without any protection, is being vigorously dealt with.

Although there is still room for considerable improvement in some premises, the effect of continued attention by Inspectors to the matter of clean food is evident in shops throughout the City, and occupiers and employees are advised as to the importance of maintaining a high standard of personal and domestic hygiene. In addition to the specific requirements of Section 13 of the Act, shopkeepers have been informed of their responsibility to take any other steps as may be reasonably necessary to prevent risk of contamination of food in the room. It is customary to notify shopkeepers in writing as to contraventions found to occur and this course has been found effective.

As a most important feature in the maintenance of cleanliness, the provision of suitable washing basins together with a sufficient supply of

soap, clean towels, and clean water, both hot and cold, has been actively pressed in shops where these facilities have been found inadequate. Whilst some of the smaller shops still rely on a supply of hot water obtained by the use of a pan or kettle heated on a gas or electric burner, or on a fire, the use of water heaters capable of giving an instant and continuous supply of hot or boiling water is always strongly recommended wherever conditions permit the installation of such appliances, and as a result these have been provided in many shops. Where the pan or kettle method is used there is a tendency to overlook the need to maintain a supply of hot water at all times, with the result that all the facilities to ensure cleanliness are not available as required by the Act.

In three instances proceedings were taken against shopkeepers, all of whom had previously been warned by letter with respect to the same offence.

In the first case, concerning a greengrocer's shop, where three female assistants were employed, the Inspector saw an assistant who had been sorting soil from potatoes, serve a customer with fruit, which she handled with soiled hands. There was a small unlit gas ring, and an empty two-pint saucepan on a shelf; no towels were provided.

The Stipendiary Magistrate found the charge proved and pointed out that the legislature attached great importance to the requirements of the Act; as this was the first prosecution of its kind in Liverpool, he imposed a fine of forty shillings.

The second case also related to a greengrocer's shop in which the female assistant, whose hands were very dirty, was seen to serve a customer with soft fruit. There was no soap, clean towels or hot water provided for the assistant's use. A fine of forty shillings was imposed in this case also, together with a penalty of sixty shillings in respect of the occupier's failure to cleanse the shop floor.

The evidence in the third case indicated that, in a grocer's shop, occupied by a limited company, in which seven male and four female assistants were employed, a kettle containing about six pints of cold water stood on an unlit gas burner, and only one towel, in a dirty condition, was provided for all the assistants to use. One assistant was seen

to leave the sanitary convenience and rinse his hands in a perfunctory manner under the cold water tap, and then wipe his hands on the dirty towel, before returning to the counter to serve customers. The company was fined twenty shillings.

Subsequent to these provisions the limited companies concerned received instructions for all their branches to be provided with hot water heaters, making 350.

Close attention has been given to the handling of confectionery in shops, and occupiers have been advised by circular letter to make use of suitable tongs for the handling of cakes wherever reasonably practicable. Almost all the replies received indicated that tongs had been obtained and were found satisfactory in use.

For types of confectionery not easily handled with tongs, extension of the use of suitable paper cups or coverings would enable these goods to be safely handled. Much has been done by the leading food retailers, as well as other shopkeepers, to maintain in all respects a high standard in the supply of clean food to the public, and they have intimated their readiness to co-operate with the department in carrying out any suggestions which may be reasonably applied in practice in their business. This has been greatly appreciated.

Shopkeepers have also been requested to reduce or eliminate the use of sawdust on shop floors where this could be done safely, and although in some instances it was stated that sawdust was essential to prevent accidents owing to smooth or slippery floors, particularly behind counters occupiers of other shops of the same kind had not found it necessary to use any sawdust, and in some cases it was said to be used only to give the floor a clean appearance. The disadvantages of indiscriminate use of sawdust in food shops has been stressed by Inspectors and a reduction in its use has resulted.

It is the practice to require that unused or seldom-used basements or upper rooms in shop premises shall be cleansed and kept free from accumulations of dust and dirt and, where necessary, in rooms to which the Food and Drugs Act does not apply, appropriate action is taken

under the Public Health Act. These steps are taken to ensure that the whole of the premises in the case of a food shop are properly maintained in a clean condition.

PLACES OF PUBLIC ENTERTAINMENT.

Systematic visitation of Theatres, Cinemas, and Skating Rinks has been carried out by the Shops Inspectors, in connection with maintenance of means for proper ventilation, the condition of sanitary conveniences, water supply and general cleanliness. During the year, 680 evening visits were made and inspections were also carried out in the daytime. In 7 cases defects of a minor character were noted, these being remedied without delay when they were brought to the notice of the managers.

Certain places of entertainment contain shops for the supply of tobacco, sweets and ice cream to patrons, and the provisions of the Shops Acts relating thereto, and to the employment of young persons under those Acts or the Young Persons (Employment) Act, 1938, were applied, together with the requirements of Section 13 of the Food and Drugs Act, 1938.

In connection with the administration of the various Acts to shops and other premises visited by Shops Inspectors, notices have been issued and inspections relating thereto have been made as follows:—

Act.	Notices issued.		Re-inspections after service of notice.
	Preliminary.	Statutory.	
Public Health Act, 1936	1,601	701	7,276
Food and Drugs Act, 1938	—	1,981	6,972
Shops Act, 1934, Section 10	—	511	3,640
Rats and Mice (Destruction) Act, 1919	—	9	18

In addition to the notices served under the Food and Drugs Act, 1938, 1,407 Warning Letters were sent to the occupiers of shops in respect to contraventions of that Act.

PARTICULARS OF VISITS AND RE-INSPECTIONS.

Approximate number of shops in the city—19,200.

Registration.				Contraventions.		
				Acts.	Reported.	Remedied.
Retail shops inspected	...	...	5,018	1912 and 1913 Acts.		
Assistants employed.				Half-holiday closing	21	21
Young persons—Male	...	...	318	Mixed trades notice	166	166
Female	...	...	506	Closing notice		
Adults—Male	...	...	1,330	(Alt. W.H.H.)	56	56
Female	...	...	4,027	Assistants' Half-holiday	49	49
Wholesale shops inspected	...	...	9	Intervals for meals	8	8
Young persons employed—Male	...	...	4	Seats for female assistants	85	85
Female	...	...	13	Assistants' half-holiday		
Adults employed—Male	...	...	9	notice	366	366
Female	...	...	43			
Half-holiday Closing.				1928 Act.		
Visits to shops after 1 p.m.	...	...	76,747	Evening closing	19	19
				Mixed trades notice		
Evening Closing.				(C.O.)	4	4
Visits to shops—				1934 Act.		
After 6 p.m.	...	...	19,881	Hours of employment of		
After 7 p.m.	...	...	20,373	young persons	5	5
After 8 p.m.	...	...	9,105	Night employment of		
After 9.30 p.m.	...	...	2,472	young persons	1	1
After 10 p.m.	...	...	35	Record of hours of em-		
				ployment of young		
Sunday Closing.				persons	131	131
Visits to shops on Sunday	...	...	4,976	Abstract of provisions of		
				1934 Act (Forms H		
Re-visits (General).				and J)	120	120
Closing hours and notices	...	...	116	Notices as to seats for		
Sunday closing and notices	...	...	6	female assistants		
Sunday employment of persons	...	...	—	(Form K)	310	310
Compensatory holidays	...	...	118	Other notices (A-Z)	13	13
Assistants' statutory half-holiday and				Section 10.		
notice	...	...	300	Ventilation	6	6
Intervals for meals	...	...	3	Temperature	13	13
Seats for female assistants	...	...	197	Sanitary conveniences	283	283
Employment of young persons	...	...	7	Lighting	11	11
Prescribed Notices—Shops Act, 1934	...	...	78	Washing facilities	130	130
Welfare arrangements in Shops	...	...	3,640	Facilities for taking meals	16	16
Public Health Acts.				1936 Acts.		
No. of nuisances reported	...	...	4,898	Closing of shops on		
No. of nuisances abated	...	...	4,769	Sunday	46	46
No. of nuisances outstanding	...	...	129	Mixed Shops' Notice		
				(Form I)	227	227
				Record of Sunday		
				employment	140	140
				TOTALS	2,226	2,226

Common Lodging-houses.

At the commencement of the year there were on the register 19 Lodging-houses providing accommodation for 1,200 lodgers.

19 applications were received from persons for the renewal of registration as keepers, which were granted for a further period of twelve months.

26 verbal notices for infringements of the byelaws were given to registered keepers during the year.

68 notices were served under the Bye-laws relating to Common Lodging-houses in respect of choked drains, verminous bedding and beds, floors unswept and not washed, windows requiring cleaning, and dirty condition of ceilings and walls, rooms, staircases and landings, 42 of which were abated at the end of the year.

Inspection of Common Lodging Houses.

Number of houses on register at 31st December, 1949 (males only)	...	...	...	...	...	...	...	...	16
Number of houses on register at 31st December, 1949 (females only)	...	...	...	...	...	...	...	...	3
Number of lodgers allowed (males)	...	...	...	...	...	...	...	...	1,068
Number of lodgers allowed (females)	...	...	...	...	...	...	...	...	134
Number of day visits	...	...	...	...	...	...	...	...	1,276
Number of nocturnal visits	...	...	...	...	...	...	...	...	38

Seamen's Lodging Houses.

At the commencement of the year there were 22 Seamen's Lodging-houses on the register. Four applications were received from persons for licences to keep a Seamen's Lodging-house, and schedules of works necessary to be carried out in order to comply with the byelaws have been sent to the keepers concerned.

The keepers of 12 Seamen's Lodging-houses have been licensed, and applications were received for renewal of 12 licences, which were granted.

Two houses have ceased to be used as Seamen's Lodging-houses.

At the end of the year there were 20 Seamen's Lodging-houses on the register.

Number of Houses.	Nationality of Seamen.				Number of Seamen allowed.
5	British	...	...	...	447
3	Chinese	...	...	...	320
7	Arab	...	...	...	142
2	Somalis	...	...	...	28
1	Indian	...	...	...	101
1	Norwegian	...	...	...	50
1	West Indian	...	...	...	62
20					1,150

Number of inspections	...	...	...	...	...	1,176
Number of nocturnal inspections	...	...	...	...	...	36
Number of houses in which contraventions of byelaws were found	...	...	...	...	...	44
Number of contraventions of the byelaws	...	...	...	...	...	224
Number of contraventions abated	...	...	...	...	...	202
Number of verbal notices	...	...	...	...	...	16
Number of statutory notices issued	...	...	...	...	...	27

Houses Let-in-Lodgings.

Number of houses visited	...	...	...	...	...	4,006
Number of inspections	...	...	...	...	...	10,172
Number of houses found dirty	...	...	...	...	...	130
Number of houses found cleansed on revisit	...	...	...	...	...	130
Number of verbal notices	...	...	...	...	...	28
Number of preliminary notices issued	...	...	...	...	...	2,042
Number of statutory notices issued	...	...	...	...	...	842
Number of nuisances found	...	...	...	...	...	9810
Number of nuisances abated	...	...	...	...	...	8,029

Appeal.**Jones v. The Lord Mayor, Aldermen and Citizens of the City of Liverpool.****Housing Act, 1936, Sections 9, 10 and 15.****Liverpool Corporation Act, 1936, Section 71.**

An appeal under Section 15 of the Housing Act, 1936, by an owner in respect of six houses against notices served upon her under the provisions of Section 9 of the Housing Act, 1936, was heard in Liverpool County Court by His Honour Judge Crosthwaite on the 13th May, 1949. His Honour gave judgment on the 15th July, 1949, and said that this was an appeal by the owner of six houses against certain requirements contained in the notices served under Section 9 of the Housing Act, 1936, on the grounds that the houses were unfit for human habitation. The notices comprised more than 200 items of work required to be carried out. He stated the owner has complied or was complying with a great majority of these requirements but thought that the line ought to be drawn somewhere, and had appealed to this Court in respect of 11 requirements, some of these apply to more than one house.

The Judge stated that he had endeavoured to follow the principles enumerated by the House of Lords in the case of *Summers v. Salford Corporation* (1943 A.C. 283) which principles he did not imagine were likely to be further extended against the landlord.

The items appealed against were as follows:—

1. Pointing of yard boundary walls.
2. Untrapped sink waste pipes.
3. Worn, pitted, shallow salt glazed earthenware sinks.
4. Short hopper water-closet pan.
5. Exterior painting.
6. Broken top panel of living-room door.
7. Broken stone window sill.
8. Absence of adequate sub-floor ventilation.
9. Fractured ceiling plaster.
10. Broken top rail of scullery door.
11. Cracked bottom door panel of bedroom door.

The Judge stated that items 4 and 5 were far the most important and serious. As to item 4, he was inclined to think the existing "hopper" water-closet pan complied with Byelaw 85, but he was not asked to decide that, it was sufficient to say that he did not consider such closet pan makes a house unfit for human habitation.

As to item 5, he said all the houses were in urgent need of external decoration, as in these days are many more pretentious houses, he did not consider that a lack of that had so far rendered them unfit for human habitation. That conclusion applied to all the rest of the repairs appealed against, they would obviously improve the condition of the houses but the defects complained of did not render the house unfit for human habitation, and with all respect to the Ministry of Health Officials it seemed to him ludicrous to suggest that the defects complained of in items 1, 7, 8, 9 and 11 conceivably have such effect.

The appeals were allowed with costs, Scale C., notices to be varied accordingly.

Canal Boats.

Public Health Act, 1936. Part X. Sections 249 to 258.

The Docks and Inland Waterways Executive, North-Western Division, are the proprietors of the only canal having direct communication with Liverpool, and the length of the waterway within the city, exclusive of the locks which lead to the docks, is about three miles.

The number of inspections of canal boats during the year was 2,315, and the condition of the boats and their occupants as regards matters dealt with in the Act and Regulations is indicated in the following table:—

TABLE I.

Boats on register, 1st January, 1949	...	...	400
New boats registered	...	...	5
Boats removed from register	...	...	2
Boats on register, 31st December, 1949	...	...	403

Contraventions occurred on 37 boats, of which 13 were registered by other Authorities.

TABLE II.

Nature of Contraventions.	Reported.	Remedied.
Unregistered boats used as dwellings	1	1
No certificate on board or certificate of registration not legible...	13	13
Leaky decks	11	10
Defective stove or stove pipes	15	15
Cabins requiring re-painting	6	6
Incorrect marking of boat... ..	2	2
Registering, lettering, etc., not legible	9	9
Defective bilge pumps	2	2
No water cask	1	1
TOTAL	60	59

TABLE III.

NUMBER AND TYPES OF BOATS REGISTERED, 31ST DECEMBER, 1940.

Motor-propelled boats	86
Motor-towed boats	43
Steam-propelled boats	61
Steam-towed boats	121
Horse-drawn boats	92
Total	403

Written notices were issued to owners in 38 instances, of these notices 37 have been complied with. No informations were laid during the year against owners or masters for infringement of the Acts or Regulations. No case of infectious sickness was reported as having occurred during the year on any canal boat visiting the district.

The Inspectors of the Port Health Authority made 395 inspections during the year, and 19 contraventions were discovered, which were subsequently dealt with. These figures are included in the foregoing table.

TABLE IV.

DETAILS OF VISITS TO CANAL BOATS.

The boats visited were registered as follows:—

Liverpool	...	...	...	...	...	108
Leeds	...	...	...	...	...	1
Manchester	...	...	...	...	...	6
Runcorn	...	...	...	...	...	9
Chester	...	...	...	...	...	1
Not registered and not used as dwellings						55

All were “wide” boats, 39 being steam-towed, 66 motor-propelled, 4 steam-propelled, 52 motor-towed, and 19 horse-drawn.

The number of inspections of these 180 boats was 1,910, and the population comprised 251 men, no women or children, the sexes and ages being as follows:—

TABLE V.

POPULATION OF CANAL BOATS.

Men	...	...	...	...	...	251
Women	...	...	...	...	...	—
Children	...	...	...	...	...	—

distributed as under:—

Males over 14 years of age	...	...	...	251
Males over 5 years and under 14 years	...	...	...	—
Males under 5 years	...	...	...	—
Females over 12 years of age	...	...	...	—
Females over 5 years and under 12 years	...	...	...	—
Females under 5 years	...	...	...	—

NOTE.—Males on attaining the age of 14 years, and females 12 years, living on canal boats, become adults, and are recorded as such in the above table.

No children of school age were found on canal boats during the year, and no families were found on a boat on the canal who had not a home ashore in addition to that on board.

The Hydrogen Cyanide (Fumigation) Act, 1937.

Official notice has been received in respect of 4 fumigations under the Hydrogen Cyanide (Fumigation) Act, 1937, 4 dwelling-houses were satisfactorily fumigated under the supervision of the sanitary inspectors.

Court and Alley Inspections.

1,639 inspections were made of courts and alleys, and 2,500 inspections of water-closets used in common, visits being made by sanitary inspectors to ascertain whether these common water-closets are kept in a clean condition.

Prohibition of Sale of Verminous Furniture, etc.

Under Section 83 of the Liverpool Corporation Act, 1936, no dealer shall sell or expose for sale any second-hand furniture, mattress, bed linen or similar articles if these are to his knowledge infested with bed bugs, or if by taking reasonable precautions he could have known them to be infested. 1,215 visits have been paid to premises by the sanitary inspectors, and no infringements were observed.

Removal of Remains.

Under the terms of licences issued from the Home Office the sanitary inspectors supervised the exhumation and reinterment of 130 bodies during the year.

Miscellaneous.

STABLES.—Stables within the city are systematically inspected by the sanitary inspectors, constant attention being paid to the frequent removal of manure and to general sanitation. The total number of visits to stables during the year was 4,459, the number found occupied was 214, and the number disused was 489.

The manure depots are situated in close proximity to the North Corporation destructor, and visits are made to them to see that the manure which has been received from the stables in the centre of the city is frequently removed so as to avoid the possibility of breeding places for flies. During the year 110 visits were made to manure depots.

MARINE STORES.—During the year 134 visits were paid to 8 marine stores, and in no cases were nuisances found.

PARKS.—Fortnightly visits are paid to all public sanitary conveniences within parks and gardens throughout the city to ascertain if they are kept in a clean condition and in good repair. 668 visits were made and in 20 instances they were found to be incorrect, the necessary action being taken to remedy defects.

POULTRY DEPOTS.—20 poultry depots were visited fortnightly, and in five instances they were found to be in an unclean condition. The necessary steps were immediately taken by the occupiers to cleanse the premises.

SCHOOLS.—2,887 visits were made to schools, and in 85 instances defects were found. The necessary steps were immediately taken to have the defects remedied.

SUMMARY OF PROSECUTIONS.

Act.	Section.	No. of Informations.	Penalties.	Costs.	Magistrate's Orders.
			£ s. d.	£ s. d.	
Public Health Act, 1936 ...	75	18	9 10 0	0 8 0	—
Public Health Act, 1936 ...	94	191	271 0 0	4 0 0	95
Public Health Act, 1936 ...	95	16	53 0 0	—	—
Public Health Act, 1936 ...	154	14	3 10 0	0 16 0	—
Liverpool Corporation Act, 1921... ..	468	39	73 10 0	0 12 0	—
Shops Act, 1912	—	5	7 10 0	—	—
Shops Act, 1928	—	2	3 0 0	—	—
Shops Act, 1934	—	1	5 0 0	—	—
Shops Act, 1934 (Young Persons)	—	6	3 0 0	0 15 0	—
Shops (Sunday Trading Restriction) Act, 1936 ...	—	7	11 0 0	0 5 0	—
Food and Drugs Act, 1938 ...	13	3	5 0 0	—	—
Liverpool Corporation Act, 1921... ..	451	—	—	—	—
TOTALS ...	—	302	£445 0 0	£6 16 0	95

Cases withdrawn	...	...	6
Cases dismissed	...	...	11
Summonses not served	...	...	3

RODENT CONTROL.

Rats and Mice (Destruction) Act, 1919.

The Infestation Order, 1943, S.R. & O. 680, as amended by S.R. & O. 847.

Active measures have been taken for many years in Liverpool to ensure the destruction of rats and mice and to bring to the notice of the public the necessity of reducing the rodent population to the lowest possible dimensions. The importance of securing adequate rodent control needs no emphasis, for it is recognised that the presence of a high rat and mouse population within the city would be a potential danger to the health and wellbeing of the public.

A special reason for the stringent measures taken is to safeguard against the possibility of the spread of plague, a disease which may be brought into the port by rats on ships arriving from foreign countries. The department is ever watchful in this direction and a proportion of the rats collected are sent to the City Bacteriologist daily for the detection of plague infection. It is satisfactory to note that all specimens submitted during the year were found to be free from plague.

Other important factors to be taken into account are the financial and material loss occasioned by rodents in the form of destruction and damage to essential food, especially during the present food shortage, to other valuable goods, and to buildings and installations.

In addition, due regard is given to the possibility of food contamination where these pests associate with our food supplies.

Therefore the work of maintaining adequate rodent control following the intensified campaign carried out in recent years was continued throughout 1949.

Procedure.

The rodent control staff are employed to

- (a) carry out systematic periodic inspection of buildings and lands within the dockside wards, central area, and in other places where rodents are likely to be found;
- (b) investigate complaints received concerning rats and mice;

- (c) prescribe the appropriate treatment to remedy infestations, and determine the sites to be included in block control schemes;
- (d) make the necessary arrangements with occupiers to remedy infestation by collective and concerted action, operating when required for the destruction of rats and mice; and
- (e) generally assist occupiers towards the prevention of infestation.

Systematic Survey.

The Rodent Exterminators examined 17,299 sites during the year in connection with systematic survey and investigation of complaints. A further 59,498 visits were made entailing operational work and re-examination of sites. The Sanitary Inspectors also made, in conjunction with other matters, 126,258 inspections under the Act and Order.

Complaints relating to rats and mice to the total of 4,532 were received and appropriate action was taken in each case where the occasion warranted.

Infestations.

During the year, 2,576 buildings and lands were subject to initial infestation, and of this total 1,482 were rat infested, 19 were rat and mouse infested, and 1,075 were mouse infested only.

In addition, 965 sites previously disinfested since the commencement of the special campaign in the year 1943 were found to be reinfested by rats or mice. Reinfestation of sites treated during the year occurred in 146 cases.

The total infestations and reinfestations of 3,541 buildings and lands was 3,687.

The principal sites of infestation were centred in industrial and commercial buildings within the dockside wards and the central area.

Infestations within the middle belt of the city were generally of a very minor degree and for the most part concerned rats in or near dwelling-houses, of which the source of infestation in many cases was considered to have been from the sewer via defective drains.

Infestations on the outskirts of the city were also minor in character and chiefly confined to gardens of dwelling-houses, especially those in a vicinity where poultry are kept.

Although the presence of rats was reported in connection with a large number of dwelling-houses, the degree of infestation in the main

was very slight. The limited supply of food and facilities for harbourage in dwellings available for rats necessitates their taking a wide range of movement, thereby increasing the number of sites showing traces of the pests without concentrated areas of infestation.

Furthermore, in many cases the prompt action of occupiers in reporting the presence of rodents enabled the department to take the necessary steps to remedy infestation before it was allowed to develop to serious proportions.

A report of the conditions of infestation in relation to each case was made, together with recommendations for disinfection, including any measures considered necessary to prevent infestation by rats and mice.

Disinfestation.

The treatment to remedy infestations was prescribed and applied by the rodent control staff in accordance with the approved methods of rodent destruction now recommended. All infested sites within each area of infestation were dealt with at one and the same time to pre-arranged time-tables under the block system of control. During the process of disinfection the non-infested sites bounding those under treatment were periodically re-examined as a precautionary measure.

Generally it is found that occupiers of buildings and lands affected show readiness to participate in block schemes, but in 23 cases recalcitrant persons were served with a notice under the provisions of the Rats and Mice (Destruction) Act, 1919, and the Infestation Order, 1943, to obtain the desired result. It has not been necessary to institute proceedings for non-compliance under the Act and Order.

The practice of providing free assistance to occupiers of private dwelling-houses has been continued.

Occupiers of premises and lands other than private dwellings who desire the department's assistance for the actual destruction of rats and mice are required to reimburse the local authority for the expenditure incurred in so doing.

The demand for such assistance is appreciable, and 918 requests were received from occupiers during the year.

During the year, 3,260 buildings and lands were disinfested from rats or mice.

Rats and Mice Extermination.

It is estimated, using the appropriate formula for calculating the "Kill," that a total of 13,288 rats were destroyed as the result of poisoning operations in buildings and lands, and 1,853 dead rats were collected.

In addition, 3,549 rats were caught in traps. A further 9,637 rats were caught in sewers by the rat catchers employed by the City Engineer and Surveyor's Department and collected from the several depots used for this purpose.

The species of rats collected were 12,227 *Rattus Norvegicus* ("brown") and 2,812 *Rattus Rattus* ("black").

The total rats destroyed by poisoning and trapping in buildings, lands and sewers are calculated to be 26,474.

A proportion of the rodents collected, 1,472 rats and 4 mice, were sent to the City Bacteriologist for examination and the remainder were burnt.

With regard to the destruction of mice, 2,782 were collected as the result of poisoning and trapping operations. A formula for calculating the "Kill" by the use of poison in relation to mice is not available, but there is no doubt that the number destroyed by this method is appreciable when taking into consideration the amount of poisoned bait consumed by mice as indicated in Table III.

Preventive Measures.

Co-ordinated action by the Sanitary Inspectors and rodent control staff is taken when required in relation to preventive measures.

Conditions likely to contribute to infestation, such as food or food waste available to rodents which could reasonably be protected, or lack of environmental hygiene, were at once brought to the notice of the persons responsible.

Preventive measures and works of proofing were carried out during or following the process of disinfestation as the occasion warranted.

The works comprised, inter alia, amending defective drains, protection of external doors, windows, ventilators, and other openings in walls and roofs of buildings, elevation of poultry-houses and sheds clear of ground, and the abolition of unnecessary harbourages considered essential to prevent infestation by rats and mice.

The following Tables I to V indicate the type of building or land found infested, details in connection with destruction of rats and mice, and generally summarise the work of rodent control.

TABLE I.

SUMMARY INDICATING THE EXTENT TO WHICH BUILDINGS AND LANDS WERE FOUND INFESTED BY RATS AND MICE AND THE NUMBER DISINFESTED DURING THE YEAR 1949.

Description of Buildings and Lands	Buildings and Lands examined	Initial Infestations				Infestations in 1949 of sites disinfested 1943/1948)				Total Premises Infested	Reinfestations during year				Total Infestations and Reinfestations	Category of Rats			Species		Infestations and Reinfestations remedied	Buildings and Lands disinfested
		Premises	Rats	Rats and Mice	Mice	Premises	Rats	Rats and Mice	Mice		Premises	Rats	Rats and Mice	Mice		Reservoir	Major Primary	Minor Secondary	Black	Brown		
Allotments	2	1	1	1	1	1	...	1
Bakehouses	17	3	...	...	3	2	2	...	...	5	...	...	...	5	...	...	5	1	1	4	4
Camps	1	...	...	...	...	1	1	...	...	1	...	...	...	1	...	...	1	...	1	1	1
Churches, Chapels, etc.	42	6	5	...	1	2	1	...	1	8	1	1	...	9	...	...	9	...	7	8	7
Clinics	26	4	1	...	3	6	2	...	4	10	2	...	...	12	...	...	12	1	2	11	9
Clubs	41	7	5	...	2	2	1	...	1	9	2	1	...	11	...	...	11	...	7	9	7
Cowsheds ... ..	—	...	...	...	...	...	...	...	...	—	...	...	...	...	...	...	...	...	...	1	1
Dairies	29	2	2	...	...	...	...	...	...	2	...	...	...	2	...	...	2	...	2	2	2
Derelict Buildings ...	162	5	5	...	...	1	1	...	...	6	...	...	...	6	...	...	6	1	5	3	3
Dwelling-Houses ...	9,955	1,773	915	6	852	346	259	4	83	2,119	69	41	...	28	2,188	...	2,188	9	1,216	2,044	1,975	
Factories—Food ...	66	11	9	...	2	23	19	...	4	34	...	...	...	34	...	...	34	20	12	24	24
Factories—Non-Food ...	793	72	48	2	22	95	75	3	17	167	14	12	...	2	181	...	1	180	63	82	156	
Farms ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2
Garages	188	7	6	...	1	9	8	...	1	16	2	1	...	1	18	...	...	18	5	10	11
Government Buildings ...	35	1	1	...	...	2	2	...	...	3	...	...	...	...	3	...	...	3	2	1	3
Hospitals	16	3	...	...	2	7	2	1	4	10	1	1	...	...	11	...	...	...	5	13	12
Hotels—Residential ...	78	8	3	1	4	6	2	...	4	14	2	...	...	2	16	...	...	16	1	5	11
Institutions : Homes ...	14	1	1	...	...	4	1	...	3	5	2	...	...	2	7	...	...	7	...	2	2
Land, Banks, etc. ...	453	242	242	...	...	11	11	...	...	253	1	1	...	...	254	...	...	254	...	254	231
Land, Bombed Sites ...	393	2	2	...	...	3	3	...	...	5	...	...	...	...	5	...	...	5	...	5	7
Marine Stores... ..	12	1	1	...	...	2	2	...	...	3	1	1	...	...	4	...	...	4	1	4	3
Markets—Food	2	1	1	...	...	...	...	...	...	1	1	1	...	...	2	...	...	2	1	1	...
Nursing Homes	2	...	...	...	...	1	1	...	...	1	...	...	...	...	1	...	...	1	...	1	1
Offices	611	44	16	...	28	38	25	2	11	82	4	1	...	3	86	...	...	86	23	28	90
Parks, Recreation Gardens ...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Piggeries	2	1	1	...	...	...	...	...	...	1	...	...	...	...	1	...	...	1	...	1	...
Places of Public Entertainment ...	45	8	2	1	5	7	2	2	3	15	1	...	...	1	16	...	...	16	2	6	10
Public Buildings	26	2	1	...	1	2	1	...	1	4	1	1	...	...	5	...	...	5	1	2	4
Public Houses	272	16	13	1	2	7	7	...	...	23	...	...	...	...	23	...	...	23	6	15	19
Railway Banks	3	1	1	...	...	...	1	...	...	1	...	...	...	...	1	...	...	1	...	1	...
Railway Sidings	12	1	1	...	...	1	3	...	...	2	...	...	...	...	2	...	...	2	1	2	3
Railway Stations	11	1	1	...	...	3	...	...	...	4	...	...	...	...	4	...	...	4	1	4	3
Refreshment Houses...	178	24	11	...	13	33	22	...	11	57	3	3	...	...	60	...	...	60	11	26	49
Refuse Destructors	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Schools—Public	156	37	5	1	31	54	14	...	40	91	9	...	...	9	100	...	1	99	1	19	90
Shops—Food	1,303	102	60	5	37	44	36	2	6	146	8	7	...	1	154	...	...	154	12	100	136
Shops—Non-Food	1,704	101	49	1	51	94	77	3	14	195	14	12	...	2	209	...	...	209	19	123	175
Slaughter-Houses ... ..	—	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
Sports Grounds	3	1	1	...	...	...	...	...	...	1	...	...	...	...	1	...	...	1	...	1	3
Stables	74	13	9	...	4	3	3	...	...	16	...	...	...	...	16	...	...	16	2	10	19
Store Sheds	29	1	1	...	...	1	1	...	...	2	...	...	...	...	2	...	...	2	1	1	3
Warehouses—Food	157	37	30	...	7	47	41	1	5	84	4	4	...	...	88	...	2	86	67	12	71
Warehouses—Cotton	42	1	1	...	...	21	21	...	...	22	...	...	...	...	22	...	...	22	22	...	12
Warehouses—General	338	35	31	...	4	87	83	1	3	122	4	3	...	1	126	...	1	125	95	43	100	
Wharfs	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL	17,299	2,576	1,482	19	1,075	965	730	19	216	3,541	146	91	...	55	3,687	...	5	3,682	369	2,018	3,406	3,260

N.B.—The Infestations remedied include 491 which were outstanding at the end of 1948.

TABLE II.

RODENT DESTRUCTION—BUILDINGS AND LANDS.
SUMMARY OF OPERATIONAL DETAILS IN CONNECTION WITH THE DESTRUCTION OF RATS AND MICE IN SURFACE INFESTATIONS DURING THE YEAR 1949.

Description of Buildings and Lands	Infestations remedied				Method employed			RODENT DESTRUCTION BY LOCAL AUTHORITY																																				
								PRE-BAITING								Points Baited	POISONING												Post Bait in Ounces		Dead Rats collected	Dead Mice collected	Estimated Rats killed by Poisoning	TRAPPING				How disposed				Species		Total Rats collected
	Quantities shewn in Ounces								Quantities shewn in Ounces												Break Back Traps		Trays		Sent to City Bacteriologist		Burnt																	
	Sausage Rusk		Bread		Sugar Meal		Wheat		Zinc Phosphide		Arsenic		Red Squill		Alpha Naphthyl Thiourea		Total Poison Bait laid	Total Poison Bait taken	Rats caught	Mice caught	Rats caught	Mice caught	Rats	Mice	Rats	Mice	Black	Brown																
	Laid	Taken	Laid	Taken	Laid	Taken	Laid	Taken	Laid	Taken	Laid	Taken	Laid	Taken	Laid		Taken	Laid	Taken	Laid	Taken	Laid	Taken	Laid	Taken	Laid	Taken	Laid						Taken	Laid	Taken	Laid	Taken	Laid	Taken	Laid			
Factories	194	133	61	...	89	43	1	7,097	4,306	1,645	903	841	512	876	411	2,491	2,571	491	766	133	321	77	281	43	3,939	744	2,684	449	261	78	1,605	273	197	4	160	58	...	480	435	309	229	538	435	1,882
Warehouses	191	99	92	...	63	34	2	9,320	5,188	3,270	1,869	556	300	898	505	2,289	3,166	660	1,634	346	342	73	490	99	5,632	1,178	3,968	1,038	792	60	2,600	918	75	30	9	158	2	1,582	142	1,182	558	1,740	144	3,548
Shops	333	249	84	...	172	68	9	6,473	4,007	1,059	729	1,380	752	865	515	3,079	2,332	465	719	139	338	102	204	37	3,593	743	2,382	434	329	190	1,615	1,096	506	381	41	149	...	1,657	737	1,011	795	1,806	737	3,092
Dwelling Houses	2,044	1,768	224	52	1,699	50	19	12,707	8,593	2,442	1,623	4,882	3,161	460	337	11,493	4,826	1,500	452	127	3,602	1,157	171	45	9,051	2,829	3,762	630	201	387	4,502	294	190	88	1	407	576	14	481	495	577	4,796
Other Premises	644	339	79	226	261	73	5	9,458	5,946	2,647	1,759	2,980	1,697	1,325	770	5,431	3,780	928	1,151	254	1,158	320	335	65	6,424	1,567	4,964	1,108	270	274	2,966	490	364	63	251	103	1	720	888	296	527	823	889	3,519
TOTAL	3,406	2,588	540	278	2,284	268	36	45,055	28,040	11,063	6,883	10,639	6,422	4,424	2,538	24,783	16,675	4,044	4,722	999	5,761	1,729	1,481	289	28,639	7,061	17,760	3,659	1,853	989	13,288	3,071	1,332	478	461	556	4	4,846	2,778	2,812	2,590	5,402	2,782	16,837

TABLE IV.

BUILDINGS AND SEWERS.

NUMBER AND SPECIES OF RATS AND MICE COLLECTED, EXAMINED AND DESTROYED
IN THE CITY OF LIVERPOOL DURING THE YEAR 1949.

	Buildings and Lands.			Sewers.		Total Examined.		Total Burnt.		Total Rats.	Total Mice.
	Rats Black.	Rats Brown.	Mice.	Rats Black.	Rats Brown.	Rats.	Mice.	Rats.	Mice.		
January	120	172	157	—	675	87	—	880	157	967	157
February	293	143	204	—	607	134	—	909	204	1,043	204
March	207	189	275	—	682	146	—	932	275	1,078	275
April	367	320	258	—	665	142	—	1,210	258	1,352	258
May	187	253	201	—	841	146	—	1,135	201	1,281	201
June	216	158	211	—	825	140	2	1,059	209	1,199	211
July	239	219	155	—	939	126	—	1,271	155	1,397	155
August	230	193	222	—	829	100	—	1,152	222	1,252	222
September ...	357	167	257	—	828	91	—	1,261	257	1,352	257
October	233	332	318	—	1,070	123	—	1,512	318	1,635	318
November	192	279	302	—	923	133	1	1,261	301	1,394	302
December	171	165	222	—	753	104	1	985	221	1,089	222
Total	2,812	2,590	2,782	—	9,637	1,472	4	13,567	2,778	15,039	2,782

TABLE V.

BUILDINGS, LANDS AND SEWERS.

TOTAL RATS DESTROYED BY POISONING AND TRAPPING DURING THE YEAR 1949.

Sewers	Buildings and Lands.			Estimated Total Rats Destroyed.
Trapping.	Trapping	Poisoning.		
Rats caught.	Rats caught.	Dead Rats Collected.	Estimated Rats destroyed : Not Found.	
9,637	3,549	1,853	11,435	26,474

HOUSING.

Normal progress in regard to Slum Clearance ceased under the terms of the Ministry of Health Circular 1866, dated 8th September, 1939.

1. Little or no repairs have been carried out to existing houses during the war and post-war years due to lack of materials, shortage of labour, etc., consequently houses have deteriorated. The rate of deterioration has been rapid and is now a matter of serious concern, and some owners, owing to the high cost of repairs, have abandoned their properties.

During 1949, slum clearance has been resumed and action taken in respect of 486 houses, but such action is controlled by the erection of new houses. In addition, 717 notices have been served under the provisions of Section 9 of the Housing Act, 1936, upon the owners to execute such works as will, in the opinion of the Council, render the houses fit for human habitation.

Clearance Areas.

2. The following summary refers to dwelling-houses represented by the Medical Officer of Health during the year 1949 as being unfit for human habitation within the meaning of Section 25 of the Housing Acts, 1936/49:—

Number of dwelling-houses represented during 1949	...	373
„ „ persons occupying the dwelling-houses	...	1,362
„ „ clearance areas officially represented	...	21
„ „ areas declared compulsory purchase orders		16
„ „ areas declared clearance orders	... ..	4
„ „ areas in abeyance	... ..	1

Progress of Slum Clearance.

The following summary indicates the number of houses dealt with to date:—

Year.	No. of C.O.'s.	No. of C.P.O.'s.	No. of Declara- tion of Unfitness Orders.	No. of Dwelling Houses.	No. of Persons to be Displaced.	No. of Houses Demolished.	No. of Persons Displaced.
1930	—	16	—	398	3,430	—	—
1934	60	42	—	2,757	13,093	—	709
1935	47	60	—	2,793	14,302	278	1,285
1936	55	59	—	3,511	17,923	695	5,443
1937	60	27	—	1,867	9,979	872	5,185
*1938	38	5	—	2,583	11,923	1,412	14,031
†1939	18	4	—	814	3,895	1,076	7,323
1940	—	—	—	—	—	631	3,214
1941	—	—	—	—	—	653	3,707
1942	—	—	—	—	—	916	2,120
1943	—	—	—	—	—	654	1,662
1944	—	—	—	—	—	423	590
1945	—	—	—	—	—	190	89
1946	—	—	—	—	—	374	166
1947	—	—	1	35	156	485	644
1948	—	—	3	65	215	260	769
1949	4	16	—	373	1,362	161	893
TOTALS	282	229	4	15,196	76,278	9,080	47,830

* During 1938, 11 Clearance Areas, comprising 1,763 houses, with a population of 7,876 persons, were represented and no further action has been taken.

† 18 Clearance Orders and 4 Compulsory Purchase Orders, comprising 814 houses, with a population of 3,895 persons, were represented in 1939, but no Public local Inquiries were held in respect of these areas owing to the outbreak of war.

Public Inquiries.

During the year under review, 4 Public Inquiries were held, in connection with 6 areas, further details of which are set out in the following table :—

No. of Clearance Orders.	No. of Compulsory Purchase Orders.	No. of Dwelling- houses.	No. of Persons to be Displaced.
Nil.	4	68	387

During the year 9 Confirmation Orders were received in connection with 93 dwelling-houses. These orders confirmed the inclusion of 100 per cent. of dwelling-houses in the areas.

The following is a list of Clearance Areas which were represented during the year :—

Compulsory Purchase Orders.

Clearance Areas.							Houses.	Population.
Gregson Street No. 4	...	...	...	...	...	...	6	32
Virgil Street No. 1	...	...	...	...	...	...	5	24
Westbourne Street No. 1	...	...	...	...	...	...	2	14
Hill Street No. 4	...	...	...	...	...	...	4	15
Mill Street No. 9	...	...	...	...	...	...	3	10
Queensland Street No. 1	} Queensland Street	...	...	}			4	13
Cardwell Street No. 1							3	6
Evelyn Street No. 1	} Great Mersey Street	...	...	}			10	57
Lamb Street No. 2							32	197
Lamb Street No. 1							16	94
Miles Street No. 1	...	...	...	...	...	...	2	5
Grinfield Street No. 1	} Grinfield Street	...	...	}			2	12
Grinfield Street No. 2							4	21
Hill Street No. 5	...	...	...	...	...	...	3	18
Gore Street No. 2	...	...	...	...	...	...	13	44
Virgil Street No. 4	...	...	...	...	...	...	2	18
TOTALS							111	580

Clearance Orders.

Clearance Areas.							Houses.	Population.
Bidder Street	...	...	...	...	...	...	230	622
Dwerryhouse Street No. 1	...	...	...	...	...	...	22	120
Worthington Street No. 1	...	...	...	...	...	...	4	16
Worthington Street No. 2	...	...	...	...	...	...	3	4
TOTALS							259	762

Areas Still in Abeyance.

Clearance Areas.							Houses.	Population.
Commercial Road No. 1	...	...	...	...	...	...	3	20
TOTALS							3	20

Individual Unfit Houses.

3. Since operations were commenced under the housing Acts, 1936/49, the Medical Officer of Health has submitted representations in connection with 830 individual houses to the Housing Committee which, in his opinion, were unfit for human habitation.

111 houses have been dealt with under Section 11, 2 under Section 12 and 717 under Section 9 of the Housing Acts, 1936/49.

During the year, 111 individual houses were represented as being unfit for human habitation within the meaning of Section 11 of the Housing Acts, 1936/49, which were dealt with as follows:—

Demolition Orders made	74
Undertakings given not to use for human habitation ...	nil
Undertakings given to render houses fit for human habitation in accordance with approved schemes	nil
Undertakings cancelled after houses have been rendered fit...	nil
Number adjourned	16
Number of representations still to be considered	21
Number of properties acquired by Local Authority	nil

Closing Orders in respect of Parts of Buildings.

4. Two Closing Orders were made in respect of representations of parts of buildings within the meaning of Section 12 of the Housing Acts, 1936/49.

5. Proceedings under Sections 9, 10 and 16 of the Housing Acts, 1936/49:—

(a) Number of dwelling-houses in respect of which notices were served requiring repairs	717
(b) Number of dwelling-houses which were rendered fit after service of formal notices:—	
(i) by owners	40
(ii) by local authority in default of owners	nil
(iii) number of items of works carried out	4,200
(iv) number of houses where work is in progress	431
(v) number of houses where time allowed on notices to carry out the work had not expired	152

Defence (General) Regulations, 1939. Regulation 68AA,

Three applications were received for licences to re-open houses included in confirmed Clearance Orders, under the above regulations. 49 applications were received for the renewal of licences for the temporary re-occupation of houses included in confirmed Clearance Orders. All applications were granted.

Increase of Rent and Mortgage Interest (Restrictions) Acts, 1920-1939.

Certificates have been issued under the above Acts in respect of 87 dwelling-houses which were not in a reasonable state of repair. Eight applications were received from landlords for a report that the premises were deemed to be in a reasonable state of repair, and all these applications were granted.

Houses Erected on Suburban Estates at 31st December, 1949.

(Including houses erected on the outskirts for slum clearance purposes.)

Estate					Non-Parlour	Parlour	TOTAL
Cantril Farm	...	...	...	...	592	20	612
„ „ (Flats)	...	...	...	...	20	60	80
Dovecot	...	...	...	...	2,331	686	3,017
Edge Lane Drive	...	...	...	...	560	311	871
Elms House	...	...	...	...	252	—	252
Fazakerley	...	...	...	...	1,030	410	1,440
Finch Lane	...	...	...	...	54	—	54
Highfield	...	...	...	...	—	618	618
Hunts Cross	...	...	...	...	159	42	201
King Street, etc., Garston	...	...	...	...	76	—	76
Knotty Ash	...	...	...	...	389	263	652
Knowsley	...	...	...	...	874	—	874
Larkhill	...	...	...	...	476	1,834	2,310
„ (Flats)	...	...	...	...	90	120	210
Norris Green	...	...	...	...	4,724	2,965	7,689
Pinehurst Road	...	...	...	...	287	395	682
Ronald Street	...	...	...	...	78	—	78
Sparrow Hall	...	...	...	...	539	65	604
„ „ (Flats)	...	...	...	...	68	—	68
Speke (Banks Lane)	...	...	...	...	286	—	286
Speke	...	...	...	...	1,283	1,292	2,575
„ (Aged Persons; Flats)	...	...	...	...	84	—	84
Speke Road (Flats)	...	...	...	...	312	—	312
Springwood	...	...	...	...	250	1,257	1,507
„ (Flats)...	...	...	...	...	24	49	73
Walton-Clubmoor	...	...	...	...	1,525	1,671	3,196
Woolton	...	...	...	...	516	120	636
Stalmine Road, Fazakerley	...	...	...	...	—	78	78
Ashes Estate, Clubmoor	...	...	...	...	—	176	176
Elm Vale, Fairfield	...	...	...	...	—	31	31
Field House, Wavertree	...	...	...	...	—	14	14
Park Road, Dingle	...	...	...	...	—	31	31
Woodlands, Aigburth	...	...	...	...	—	61	61
Garston	...	...	...	...	—	159	159
Total within the area of the City					16,879	12,728	29,607
Brook House	...	...	...	...	335	203	538
„ „ (Flats)	...	...	...	...	198	—	198
Huyton Farm	...	...	...	...	937	79	1,016
Knowsley	...	...	...	...	4,076	786	4,862
„ (Flats)	...	...	...	...	108	—	108
Total outside the City Boundary					5,654	1,068	6,722
GRAND TOTAL					22,533	13,796	36,329

In addition there are 164 flats attached to shops and maintenance depots on various estates.

The number of houses inspected for housing defects under Public Health or Housing Acts was 17,584, and the number of inspections made for the purpose was 32,854. Notices were served requiring defects to be remedied under the Public Health Act in respect of 37,412 houses. The number of dwelling-houses in which defects were remedied after service of formal notices was 22,791, and in 13,603 dwelling-houses defects were remedied in consequence of informal action.

Housing Act, 1936, Part IV. Overcrowding.

82,679 visits were made to houses in connection with the overcrowding provisions of the Housing Act.

Houses Owned by the Local Authority.

Total number of houses and flats owned by the Local Authority at 31st December, 1949 (excluding 19 houses built under the Housing Acts and subsequently sold, and 3,502 temporary bungalows) including 249 houses and flats under the control of the County Borough of Bootle ... 46,109

Number of houses built in the last two years under the Housing Act, 1936, Part V ... 2,702

The following table shows the accommodation which has been provided in the Corporation's housing and rehousing schemes up to 31st December, 1949.

No. of rooms per dwelling (exclusive of bathroom, sculleries, etc.)	Number of Houses and Flats erected.					TOTALS.
	On Suburban Estates.			In Central Areas.		
	Houses.	Aged persons' cottages.	Flats.	Houses.	Flats.	
1	—	130	74	—	222	426
2	—	428	249	—	1,943	2,620
3	1,610	—	322	18	3,250	5,200
4	19,143	—	219	158	3,634	23,154
5	13,990	—	151	18	302	14,461
6	110	—	—	—	18	128
7	1	—	—	—	—	1
TOTALS ...	34,854	558	1,015	194	9,369	45,990

In addition there are 164 flats over shops or attached to maintenance depots, and 3,502 temporary bungalows.

Rentals.

The weekly rentals of flats (including rates), range from 4s. 7d. for a bed living room flat to 13s. for a five bedroom flat. The inclusive weekly rental of houses vary between 10s. 8d. for the non-parlour type, and 48s. 4d. per week for houses with four bedrooms, and for Aged Persons' Cottage Flats 4s. and 6s. 6d. per week.

General Statistics.

Area of City	...	...	27,321 acres
Number of inhabited houses at 31st December, 1949	...	...	195,117
Number of structurally separate dwellings occupied (1931 Census).			173,938
Rateable value	...	...	£6,536,414
Sum represented by a Penny Rate	...	...	£26,255

WATER SUPPLY.

The water supply in the area during the year 1949 was satisfactory both in quality and in quantity.

Biological examinations of the waters were made regularly by the City Bacteriologist, samples for these routine examinations being taken both in the City and at the local reservoirs at Prescott.

While there has been no reason in the past to regard the waters as unduly plumbo-solvent, the subject continues to be investigated. Steps have been taken to raise the pH value of the Rivington Supply and are being taken to do the same to the Vyrnwy Supply.

The supplies from both Rivington and Lake Vyrnwy are treated by slow sand filtration and chlorination, and further chlorination is carried out at Prescott Storage Reservoirs.

There are no parts of the area dependent upon standpipes for a supply.

APPENDIX A.

CITY OF LIVERPOOL.

Birth-Rates, Death-Rates, and Analysis of Mortality during the year 1949.

England and Wales, London, 126 County Boroughs and Great Towns, and 148 Smaller Towns. (Provisional Figures)

	Rate per 1,000 Population.		Annual Death-Rate per 1,000 Population.						Rate per 1,000 Live Births.	
	Live Births.	Still-births.	All Causes.	Typhoid and Paratyphoid Fevers.	Small-pox.	Whooping Cough.	Diphtheria.	Influenza.	Diarrhoea and Enteritis (under two years).	Total Deaths under one year.
England and Wales	16·7	0·39	11·7	0·00	0·00	0·01	0·00	0·15	3·0	32
126 County Boroughs and Great Towns, including London	18·7	0·47	12·5	0·00	0·00	0·02	0·00	0·15	3·8	37
148 Smaller Towns (Resident Populations 25,000 to 50,000 at Census 1931)	18·0	0·40	11·6	0·00	0·00	0·01	0·00	0·14	2·4	30
London	18·5	0·37	12·2	0·00	0·00	0·01	0·00	0·11	1·7	29
Liverpool	20·7	0·44	11·6	0·00	0·00	0·07	0·00	0·13	3·8	44

	Puerperal Sepsis,	Others.	Total.
The maternal mortality rates (provisional) for England and are Wales as follows : per 1,000 Total Births ...	0·22	0·76	0·98

CITY OF LIVERPOOL.

Causes of, and ages at, Death during the year 1949.

Causes of Death.		NET DEATHS AT VARIOUS AGES, OF "RESIDENTS," WHETHER OCCURRING WITHIN OR WITHOUT THE DISTRICT.									Total Deaths in Liverpool District, whether of "Residents" or "Non-Residents."
		At all ages.	AT AGES—YEARS.								
			Under 1	1—	3—	5—	15—	25—	45—	65—	
All Causes	Certified	9330	729	116	33	95	205	701	2356	5095	10609
	Uncertified	4	1	—	—	—	—	—	1	2	4
1.	Typhoid and Paratyphoid Fever;	3	1	—	—	1	—	—	1	—	3
2.	Measles	12	6	5	—	1	—	—	—	—	13
3.	Scarlet Fever	—	—	—	—	—	—	—	—	—	—
4.	Whooping Cough	57	41	14	1	1	—	—	—	—	64
5.	Diphtheria	4	1	—	2	—	—	1	—	—	4
6.	Influenza	102	2	—	—	1	1	6	24	68	104
7.	Encephalitis Lethargica	9	—	—	—	—	—	2	5	2	10
8.	Cerebro-spinal Fever	15	7	5	1	—	1	1	—	—	18
9.	Tuberculosis of Respiratory System ...	542	1	1	1	4	87	206	189	53	596
10.	Other Tuberculous Diseases	68	4	15	3	13	14	10	8	1	102
11.	Syphilis	47	1	—	—	—	—	4	25	17	56
12.	General Paralysis of the Insane	6	—	—	—	—	—	2	2	2	6
13.	Cancer	1382	2	1	1	4	10	93	580	691	1664
14.	Diabetes	47	—	—	—	—	4	—	12	31	58
15.	Cerebral Haemorrhage	623	—	—	—	1	—	19	175	428	695
16.	Heart Disease	1947	—	—	—	8	17	109	466	1347	2126
17.	Aneurysm	—	—	—	—	—	—	—	—	—	—
18.	Other Circulatory Diseases	884	—	—	—	2	—	3	170	709	975
19.	Bronchitis	780	15	3	—	1	4	14	244	499	825
20.	Pneumonia (all forms)	595	161	24	4	2	9	28	91	276	675
21.	Other Respiratory Diseases	113	6	—	—	—	2	14	42	49	127
22.	Peptic Ulcer	80	—	—	—	—	1	7	36	36	102
23.	Diarrhoea, etc.	121	38	7	—	1	—	6	11	8	145
24.	Appendicitis	19	—	—	1	4	4	2	4	4	22
25.	Cirrhosis of Liver	14	—	—	—	—	—	1	6	7	19
26.	Other Diseases of Liver	31	1	1	1	1	—	6	9	12	49
27.	Other Digestive Diseases	96	10	1	1	—	2	7	28	47	110
28.	Acute and Chronic Nephritis	128	1	—	—	—	7	24	37	59	151
29.	Puerperal Sepsis	4	—	—	—	—	3	1	—	—	4
30.	Other Puerperal Causes	5	—	—	—	—	—	5	—	—	6
31.	Congenital Debility, Premature Birth, Malformations, etc.	355	334	8	1	1	4	4	3	—	431
32.	Senility	463	—	—	—	—	—	—	—	463	494
33.	Suicide	81	—	—	—	1	3	13	40	24	87
34.	Other Violence	262	16	18	7	26	17	36	47	95	294
35.	Other Defined Causes ...	433	32	13	9	22	15	76	99	167	572
36.	Causes Ill-defined or unknown.....	6	—	—	—	—	—	1	3	2	6
TOTALS		9334	730	116	33	95	205	701	2357	5097	10613

APPENDIX C.

CITY OF LIVERPOOL.

Infant Mortality during the year 1949.

Net deaths from stated causes at various ages under One Year.

CAUSE OF DEATH.							Under 1 Week.	1 Week and under 2 Weeks.	2 Weeks and under 3 Weeks.	3 Weeks and under 4 Weeks.	Total under 4 Weeks.	4 Weeks and under 3 Months.	3 Months and under 6 Months.	6 Months and under 9 Months.	9 Months and under 12 Months.	Total Deaths under One Year.	
All Causes.	{	Certified ... ..	...	...	...	...	261	32	14	25	332	151	133	81	32	729
		Uncertified	1	—	—	—	1	—	—	—	—	—	1
Typhoid Fever							—	—	—	—	—	—	—	1	—	1	
Poliomyelitis							—	—	—	—	—	—	—	—	—	—	—
Measles							—	—	—	—	—	1	—	2	3	6	
Scarlet Fever							—	—	—	—	—	—	—	—	—	—	—
Whooping Cough							—	—	—	—	—	8	11	13	9	41	
Diphtheria							—	—	—	—	—	—	—	—	1	1	
Cerebro Spinal Fever							—	—	—	—	—	1	3	3	—	7	
Influenza							—	—	—	—	—	1	—	—	1	2	
Dysentery							—	—	—	—	—	—	—	1	—	1	
Erysipelas							—	—	—	—	—	—	—	—	—	—	
Pulmonary Tuberculosis							—	—	—	—	—	—	—	1	—	1	
Tuberculous Meningitis							—	—	—	—	—	—	—	2	1	3	
Other Tuberculous Diseases							—	—	—	—	—	—	1	—	—	1	
Meningitis (not Tuberculous)							—	1	—	2	3	5	—	1	—	9	
Convulsions							—	—	—	1	1	—	1	1	—	3	
Bronchitis							—	—	—	1	1	6	7	1	—	15	
Pneumonia (all forms)							5	5	3	5	18	58	48	30	7	161	
Diarrhœa							—	—	—	—	—	—	—	—	—	—	
Enteritis							1	2	—	5	8	30	32	12	6	88	
Other Diseases of Stomach							—	—	—	—	—	2	1	—	—	3	
Syphilis							—	—	—	—	—	1	—	—	—	1	
Rickets							—	—	—	—	—	—	—	—	—	—	
Suffocation							—	—	—	2	2	7	2	1	—	12	
Injury at Birth							33	—	—	—	33	—	—	—	—	33	
Atelectasis							28	—	—	—	28	1	2	—	—	31	
Malformations							25	12	4	4	45	12	7	3	1	68	
Premature Birth							157	11	6	3	177	6	2	—	—	185	
Atrophy, Debility and Marasmus... ..							1	—	—	—	1	2	—	—	—	3	
Other Causes							12	1	1	2	16	10	16	9	3	54	
Totals							262	32	14	25	333	151	133	81	32	730	

Net Births in the year	{	Legitimate	...	15,608
		Illegitimate	...	948

Net Deaths in the year of	{	Legitimate Infants	667
		Illegitimate Infants	63

APPENDIX D.

CITY OF LIVERPOOL.

Notifiable Diseases (other than Tuberculosis) during the Year 1949.

DISEASE.	NUMBER OF CASES NOTIFIED.													Cases admitted to Hospital	TOTAL DEATHS
	At all Ages.	At Ages—Years													
		Under 1	1—	2—	3—	4—	5—	10—	15—	20—	35—	45—	65—		
Small-pox	3	--	—	—	—	—	—	2	1	—	—	—	—	3	—
Scarlet Fever	1441	5	44	111	152	154	669	225	38	26	13	4	—	503	—
Diphtheria	129	5	9	10	14	13	27	24	6	17	4	—	—	127	4
Enteric Fever (including Para- typhoid)	100	3	5	10	7	4	34	17	7	7	3	3	—	100	3
Puerperal Pyrexia.....	181	—	—	—	—	—	—	—	14	147	20	—	—	173	—
Pneumonia	808	114	85	58	42	25	49	17	17	77	70	156	98	116	106
Cerebro-spinal Fever	39	15	6	3	1	2	4	1	—	4	1	2	—	35	15
Poliomyelitis and Polioencephalitis..	66	4	6	10	10	4	12	6	2	7	2	3	—	61	4
Encephalitis Lethargica	1	—	—	—	—	—	—	—	1	—	—	—	—	1	9
Dysentery	449	55	81	91	60	40	64	13	6	13	11	8	7	420	2
Ophthalmia Neonatorum	128	128	—	—	—	—	—	—	—	—	—	—	—	91	—
Erysipelas	164	—	—	1	2	—	2	5	3	11	33	77	30	78	2
Malaria	28	—	—	—	—	—	—	—	—	12	8	7	1	18	—
Anthrax	4	—	—	—	—	—	—	—	—	2	1	1	—	4	—
Measles	5930	383	850	1110	981	767	1745	60	21	4	6	3	—	465	12
Whooping Cough	2791	389	494	553	420	314	582	23	5	5	5	1	—	494	57
Food Poisoning	323	2	5	3	—	—	4	256	3	16	13	15	6	29	—
TOTALS	12585	1103	1585	1960	1689	1323	3192	649	124	348	190	280	142	2718	214

DEATHS REGISTERED DURING THE YEAR 1949

DISEASES	SEX		AGE—BELOW																				REGISTRATION DISTRICT (SOUTH)	REGISTRATION DISTRICT (NORTH)	TOTALS.		
	Males.	Females.	1	2	3	4	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80				90	Over 90
ALL CAUSES	4880	4454	730	77	39	17	16	55	40	76	129	137	125	194	245	338	475	653	891	1155	1351	1257	1216	118	3825	5509	9334
I.—Infections and Parasitic Diseases	515	383	70	29	11	5	6	11	11	31	72	66	63	56	56	72	59	77	55	66	37	21	21	5	291	607	898
II.—Cancer and other Tumours	778	636	2	1	1	1	3	3	3	8	7	11	26	56	83	123	186	201	242	216	158	79	2	592	822	1414	
III.—Rheumatism and other General Diseases	38	70	5	1	3	...	1	2	1	5	2	2	1	3	1	6	5	8	12	19	15	6	12	1	45	63	108
IV.—Diseases of the Blood	24	38	1	...	3	...	1	2	1	2	...	2	1	5	3	2	3	3	5	7	9	7	5	...	32	30	62
V.—Chronic Poisoning	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1
VI.—Diseases of Nervous System	340	409	20	5	3	2	1	9	4	5	4	10	5	13	20	26	40	57	76	114	127	116	87	5	308	441	749
VII.—Diseases of Circulatory System	1364	1467	...	...	...	...	...	...	3	7	6	11	27	14	33	38	57	117	174	288	387	534	537	49	1178	1653	2831
VIII.—Diseases of Respiratory System	859	629	182	21	6	2	2	...	3	5	10	4	6	19	27	35	72	95	175	218	227	210	157	12	632	856	1488
IX.—Diseases of Digestive System	198	163	99	8	1	2	1	5	1	2	5	3	4	11	11	19	25	23	27	33	30	31	20	...	132	229	361
X.—Diseases of Genito Urinary System	147	85	1	...	1	...	...	...	...	5	2	6	6	7	12	12	10	12	21	31	43	28	34	...	101	131	232
XI.—Diseases of Pregnancy	...	9	...	...	...	...	...	...	...	3	...	...	...	3	2	...	...	...	...	...	2	1	1	...	5	4	9
XII.—Diseases of Skin	3	4	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	2	5	7
XIII.—Diseases of Bones	45	1	...	...	1	...	...	...	...	...	...	...	...	...	1	2	...	...	...	1	2	...	...	...	42	47	89
XIV.—Congenital Malformations	155	111	68	4	4	1	...	...	...	1	2	2	1	...	...	...	...	...	...	...	...	...	...	...	131	135	266
XV.—Diseases of Early Infancy	192	271	266	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12	58	117	232	44	158	305	463
XVI.—Old Age	212	131	16	9	9	3	4	19	8	10	10	9	10	16	14	24	18	16	29	24	35	28	31	1	173	170	343
XVII.—Deaths from Violence	3	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
XVIII.—Ill-defined Diseases	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Class 1.—Typhoid Fever	2	1	1	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	3	3
Cerebro-spinal Fever	10	5	7	4	1	...	1	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	2	13	15
Scarlet Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Whooping Cough	29	28	41	12	2	1	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	53	57
Diphtheria	3	1	1	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	4
Erysipelas	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Tuberculosis of Resp. Syst.	329	213	1	1	...	...	1	1	3	20	67	58	54	50	44	57	43	59	30	34	13	4	2	...	169	373	542
Tuberculosis Meningitis	17	17	3	4	4	1	2	3	2	4	4	2	1	...	...	1	...	1	...	...	...	...	...	...	...	6	6
Tuberculosis of Intestines, etc.	4	2	...	...	...	...	...	...	...	1	...	...	...	...	...	...	2	1	...	...	...	1	...	...	...	22	28
Tuberculosis of other Organs	16	12	1	4	3	...	...	3	5	4	...	2	1	...	...	1	...	...	...	...	...	...	...	...	...	2	2
Dysentery	1	1	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
Malaria	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Syphilis	36	10	1	...	...	...	...	...	...	...	...	...	1	1	2	4	8	5	7	8	6	2	1	...	20	26	46
Locomotor Ataxia	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	6
General Paralysis of Insane	2	4	...	...	...	...	...	...	...	...	...	...	...	1	1	...	1	...	...	2	1	...	...	...	...	...	102
Influenza	36	66	2	...	...	...	...	...	1	1	...	2	...	1	3	...	5	7	12	19	16	14	16	3	56	46	102
Smallpox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	12
Measles	6	6	6	4	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	4
Acute Poliomyelitis	1	3	...	...	...	1	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	3	9
Encephalitis Lethargica	7	2	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2	...	2	1	1	1	...	...	...	4	5
Other Infectious Diseases	13	12	5	...	...	1	...	1	...	...	...	1	2	2	2	6	1	2	1	2	1	...	...	...	11	14	25
Class 2.—Cancer of Buccal Cavity	30	5	...	...																					

